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THE UNIVERSITY OF ALBERTA

# UTILIZATION OF INNOVATIVE ELEMENTS OF SCHOOL DESIGN

by

© NEIL WILLIAM JAMES CLARKE

A THESIS

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "Utilization of Innovative Elements of School Design," submitted by Neil William James Clarke in partial fulfilment of the requirements for the degree of Master of Education.

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## ABSTRACT

The purpose of this study was to investigate and report on the utilization of educational facilities embodying certain "elements" of innovation in terms of educational specifications. Seven elements of design were identified in the literature and confirmed by a panel of expert judges as the most important ones in terms of current educational practice. They were: Large Group Instructional Areas, Small Group Instructional Areas, Individual Study Facilities, Instructional Materials Center, Teachers' Work Room, Ancillary Areas, and Pupil Guidance and Counselling Center. Edmonton Public and Separate Elementary schools which contained one or more of these elements were selected for the study. Two hundred forty-eight teachers and fifty-one administrators were surveyed in twenty-eight schools.

A special questionnaire was devised which compared the intended uses of each of the seven facilities with the actual uses of the facilities as perceived by the respondents and recorded in the survey instruments.

Specifically, the data were used to describe the extent of utilization of the facilities and patterns of utilization by the two samples of respondents and by twenty-four sets of subgroups of respondents from the two samples. Extent was defined as a frequency of response profile showing how many respondents chose each of "never," "several times per year," "several times per month," "several times per week," or "several times per day" in items concerning the extent to

which each intended use of each facility was made. Patterns were (i) the relative extent to which the several uses of each facility were made, and (ii) the relative extent to which the elements of innovative facilities were used overall.

It was found that the seven facilities were ranked by teachers in terms of extent of utilization in the following order: small group instructional area, instructional materials center, individual study facilities, large group instructional area, teachers' work room, pupil guidance and counselling facilities, and ancillary areas. The ranking by administrators was similar to the above.

Second, it was found that the patterns of utilization and the extent of utilization by subgroups of the samples defined by training, formal education, experience, grade level taught, and many other personal, situational, and professional variables were nearly identical. The study did not attempt to determine the reason for such a finding, but some inferences were tentatively made and discussed; for example, teachers working in innovatively designed schools may be self-selecting.

The main outcome of the study was the description of teacher utilization of innovatively designed school facilities in terms of the ways in which the facilities were intended to be utilized.

## ACKNOWLEDGEMENTS

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# Chapter 1

## INTRODUCTION

Considerable imagination, innovation, planning and capital expenditure have gone into the design and construction of educational facilities. In recent years, many elements of design have been introduced which can be incorporated into new buildings or into additions to existing facilities. These new elements of design ostensibly afford administrators and teachers opportunities to develop and to implement better techniques for the achievement of educational objectives.

Although new ideas are being discovered and utilized, it is possible that the utilization of school facilities is significantly less efficient than it could or ought to be. Regarding educational goals and the utilization of facilities, Trump (1967:11-12) stated:

> The total problem includes better development of student talents and maximum use of professional skills, plus efficient use of school facilities. . . . Although technological advances are made by educated people, education makes relatively little use of the advances [italics in the original].

Later, Trump (1967:13) added that ". . . today's schools are too costly in terms of the waste of human resources and the inadequate use of modern facilities."

Boicourt (1953:10) reported that

> . . . It has been found, in some communities, that many teachers do not know how to use facilities and classrooms in the new modern buildings. If they participate in the planning process, there is less likelihood of this situation existing.

Further, according to McGuffey (1964:1), "The educational plan which describes the learning outcomes and learning environment must precede the architectural plan and the designing of the facility."

Philosophical statements describing desired learning outcomes and learning environments--the curriculum--must be translated into bricks and mortar (Engleman 1960:iii, Educational Facilities Laboratory 1967:5, and Boles 1965:19). Surveying the needs for school facilities includes determining the purpose of education in society, and determining the nature of the learner, himself (Herrick and others 1965: 35-41).

## STATEMENT OF THE PROBLEM

The major purpose of the study was to examine the utilization of various innovative elements of school design as perceived by teachers and administrators on staffs in schools where one or more of these elements have been incorporated. The description of patterns of utilization was done on the basis of uses intended or envisioned by the creators and proponents of the innovative elements of school design.

### Preliminary Problems

In order to have a basis for examining patterns and extent of utilization, three questions were considered prior to the major problem:

1. Which innovative elements of school design are regarded as most important in their actual or potential contributions to better attainment of modern elementary educational aims?

2. What are the intended or envisioned uses of each innovative element of school design?

3. What criteria can be used for establishing whether each design element has in fact been incorporated into schools, so that the sample of schools to be studied can be identified?

## The Major Problem

The main problem encompassed three subproblems:

1. To what extent do the teachers and administrators surveyed utilize innovative elements of school design in the ways intended?

2. What patterns of utilization of innovative elements of school design do teachers and administrators reflect?

3. Do relationships exist among the extents of utilization and among each of the two kinds of patterns of utilization which were indicated by various demographically and otherwise defined subgroups within the sample of teachers and the sample of administrators? For example, the following groups can be identified within the samples: public school teachers, separate school teachers, public school administrators, separate school administrators, teachers from the eight types of schools classified according to the number and combination of the seven design elements incorporated, teachers from each of three sizes of schools, teachers of various grade levels, and groups of teachers and administrators defined by age, sex, education, experience, and other personal variables.

## Delimitations of the Study

The sample of innovative elements of school design to be studied was selected according to the following criteria: each

innovative element of school design must (1) have been recognized by members of a panel of expert judges as a major design innovation valuable in assisting in the achievement of specified educational aims, (2) have been one which has been incorporated into new elementary schools, and (3) be such that its manipulation and utilization by teachers and administrators could have significant and direct bearing on the achievement of educational goals. For example, air-conditioning would not be considered as an innovative element according to the above criteria because it has only indirect influence on the achievement of goals, and because it does not depend upon the academic organization of elementary schools.

All Edmonton Public and Edmonton Separate elementary schools which, according to the definitions used, had one or more of the innovative elements of school design incorporated into them were surveyed.

Teachers' and administrators' perceptions of utilization as recorded by a questionnaire comprised the data on which the study was based.

## Limitations of the Study

Perceptions of teachers and administrators of the utilization of innovative design elements were obtained by means of a specially designed questionnaire. Not only was the instrument carefully constructed and validated by a panel of judges, but also respondents were assumed to be able to understand questionnaire items and to answer authentically and honestly.

The sample of urban elementary teachers and the sample of

urban elementary administrators were selected samples, rather than random samples. Therefore, in the strictest sense, findings concerning these samples cannot be generalized. However, if caution is exercised, it seems appropriate to assume that the findings will apply generally to innovatively designed Edmonton elementary schools and their staffs.

## TERMS USED IN THE STUDY

The problem was to examine the utilization of innovative design in terms of the intended uses as envisioned by the advocates and creators of the facilities. The extent and patterns of utilization were determined from the perceptions of teachers and administrators in the schools which were surveyed.

### Purposes Intended

It was borne out by the literature that there is considerable preliminary contemplation, research and experimentation involved in designing new facilities. Such research and development are based on recognition of a need for better ways of achieving particular educational goals. Briefly, it is hoped that innovative elements of physical facilities are created with definite and well-articulated purposes in mind. The literature reviewed in Chapter 2 yielded tentative lists of intended uses for each element. These were confirmed by a panel of experts and became the basis for data collection.

### Extent of Utilization

Extent of utilization of an element was defined as a frequency profile showing the percentages of respondents who indicated each of the five possible extents of utilization given in the questionnaire.

By marking A, B, C, D, or E, respondents indicated the extent to which they made use of each element in each manner listed.

Percentages were averaged to yield an overall frequency profile.

## Patterns of Utilization

1. Intra-element utilization patterns. The overall extent to which a group of respondents practised each of the intended uses of a design element permitted these uses to be placed in rank order. Consequently, those uses which were emphasized or deemphasized by the group under consideration could be identified.

2. Inter-element utilization patterns. The overall extent to which a group of respondents utilized each of the several elements allowed the elements to be placed in rank order. This in turn permitted examination of the extent to which a group of respondents utilized each innovative element of school design in relation to the others.

## Innovative Element of School Design

On the basis of the criteria stated earlier a sample of seven innovative elements was chosen from the population suggested in the literature. These seven were confirmed by a panel of expert judges as being the most significant for elementary education. In the present study, "innovative elements of school design" are sometimes referred to more briefly as "design elements," "design innovations," "innovative elements," or simply, "elements."

## The Concept of "Element"

Essentially, elements are physical facilities. However, attention is focussed on educational specifications rather than on

architectural or engineering specifications. Although there are various physical shapes for a particular facility, all have essential features in common based upon the uses to be made of the facility. Each set of common essential features represents one innovative element of design.

The literature surveyed in Chapter 2 established that the open area and the instructional materials center are the two most important new concepts in school facilities. In order to consider these in a number of schools with diverse specific designs, four discrete elements within the two types of facilities were specially defined. These four elements were such that they could be thought of in the same way in all open areas, or in all instructional materials centers irrespective of differences in specific physical characteristics. These specially defined elements were conceived primarily in terms of educational activities (or uses) which occur or can occur in the facility, rather than in terms of physical shape, size, or location.

In the open area and the instructional materials center, the following four discrete elements exist: Large Group Instructional Facilities, Small Group Instructional Facilities, Individual Study Facilities, and a media storage and retrieval system referred to for the purposes of this study as the Instructional Materials Center or IMC. These four elements are quite independent of the physical size and shape of a school. For example, individual study facilities may be carrels in the library, a table and chair in a corner of a room in the school or in a partitioned off part of the open area.

These four elements and three others, Ancillary Areas, Teachers' Work Room, and Pupil Guidance and Counselling Center, are discussed in more detail in the following chapter.

## THE IMPORTANCE OF THE STUDY

Tyler (1969:1) wrote:

> New concepts, new procedures, and new instruments of evaluation are emerging from the interaction among new needs for educational evaluation, new conditions that must be met, new knowledge about education, and new technologies that can be utilized. . . . The recent rapid increase in the number and availability of technological devices in education . . . has brought to attention the need to evaluate the effectiveness of these.

In fact, Part II of the most recent Yearbook of the National Society for the Study of Education (Richey 1969: x)--from which the above was quoted--is devoted entirely to ". . . rethinking of the broader aims and purposes of evaluation, and to donsideration of new and untried methods [of evaluation]."

The time, skill, and capital invested in school design and in education in general is presently very great. It is important to evaluate the returns of such investments as accurately as possible.

This study should contribute to this kind of evaluation in two important ways. First, the investment in particular types of facilities was studied in terms of educational objectives. Second, a procedure for detailed evaluation of educational activities which relate innovations to educational goals was devised and piloted. Means for evaluating educational expenditure were suggested which take into account not only financial aspects, but also the more elusive aims of education.

Barnes and others (1960:27-32) have pleaded for research done at the local level rather than more generalized educational research. In the same vein, Corey (1953:33-40) urged that ". . . action research, that is, research undertaken at the local level for the express purpose

of improving classroom practice . . . ," be undertaken on a much broader scale.

An important by-product of the study is a documented, extensive list of the useful innovative elements of school design and the intended uses of each. Such a list, readily available, should be useful to educators and planners as well as to other researchers.

The National Association of Secondary School Principals more than ten years ago identified in excess of one hundred educational studies which they believed ought to be conducted (reported in Trump 1967:139-147). The review of the literature (Chapter 2 of the present study) indicated that most of the hundred or more studies have not yet been carried out. For example:

> . . . Utilization of material aids to instruction, [of] television, laboratories, workshops, and libraries, . . . [of] physical plant in improving staff functioning . . . ; determining various sizes of instructional areas needed; analysing location relationships of instructional areas . . . ; studying physical plant influences upon departmentalization, students habit and attitude development, energy output of teachers; [and] developing plans for assuring maximum flexibility for future needs. . . .

In conclusion, educational needs must be determined before facilities are planned and built. Philosophical statements describing desired learning outcomes and learning environments--the curriculum--must be translated into bricks and mortar. Surveying the needs for school facilities includes determining the purposes of education in society, and determining the nature of the learner, himself.

Chapter 2

# RELEVANT LITERATURE: THE DEVELOPMENT OF THE QUESTIONNAIRE; RELATED RESEARCH

## INTRODUCTION

Implicit throughout this study is the assumption that the creators and advocates of innovative elements of school design based, developed, and modified their ideas and plans on intended or envisioned uses for new kinds of facilities in terms of better achievement of educational aims.

Therefore tentative lists of elements and of intended uses of each were developed by a research of recent literature on innovation, school facilities, and educational planning. Subsequently, the questionnaires were drafted from these innovations and the envisioned ways of utilizing them.

This chapter shows the sources in the literature for every use listed in the questionnaires. Although multiple references are cited in most instances, these do not comprise an exhaustive list. The intent of the search through the literature was to establish the full range of uses for various facilities, but not to identify extensive lists of writers who suggested each use.

### The Plan for the Research of the Literature

A preliminary step in conducting the research was identifying the types and names of publications, reports, and organizations in

which writers or individuals discussed their ideas of intended uses for innovatively designed school facilities. Interviews were arranged with school facilities planning officials of the two Edmonton School boards.

Interview with Mr. K. Taylor, Director of Design Research, The Edmonton Public School Board. According to Mr. Taylor, design concepts come indirectly from the educational departments; that is, educators have a particular educational goal in mind and some idea of the design needed to help achieve the goal. The following sources are consulted by Mr. Taylor and his staff in the Department of School Facilities of the Edmonton Public School Board:

1. The Council of Educational Planners.
2. The California State Department of Education.
3. The Study of Educational Facilities of the Metropolitan Toronto School Board.
4. Educational Facilities Planning Consultants, California.
5. School Construction Systems Development, a division of the Educational Facilities Laboratories, Incorporated.
6. The Nation's Schools
7. American School and University.
8. School Progress

Interview with Mr. N. Pasternak, Head of the Planning Division of the Edmonton Separate School Board. Mr. Pasternak, in contrast to Mr. Taylor, suggested that many design innovations result from pressure exerted by planners and architects on administrators to consider the possibilities of innovative design elements. Mr. Pasternak suggested

that the following are the major sources of information on design innovation:

1. Educational Facilities Laboratories, Incorporated.
2. Study of Educational Facilities of the Metropolitan Toronto School Board.
3. The California State Department of Education, Bureau of School Planning.
4. The Ontario Department of Education.
5. Council of Educational Facilities Planners.
6. School Planning Laboratories, Stanford University.
7. Associations of School Business Officials.
8. The Nation's Schools
9. School Progress
10. American School and University
11. Canadian Architect
12. Architectural Record
13. Progressive Architecture
14. The Educational Facilities Council of Alberta. (Both Mr. Taylor and Mr. Pasternak mentioned this local council. The Council, however, seemed primarily concerned with details of construction rather than with the relationship between facilities and academic goals. For example, the Council has been instrumental in obtaining a uniform set of fire regulations for Alberta schools.

## THE SEVEN INNOVATIVE ELEMENTS OF SCHOOL DESIGN

### Facilities for Large Group Instruction

Trump, as summarized in Clinchy (1961:5) listed

introduction, motivation, explanation, planning, group study, enrichment, generalization, and evaluation as the uses for large group instruction. In a team-teaching situation where an adjoining classroom or an open area is available, large group instruction should account for about forty percent of a pupil's time in school.

"The basic purpose of large group instruction is to place students in contact with the best possible teaching for a particular topic. . . ." (Trump and Miller 1968:275). Trump and Baynham (1967:29-32) concurred.

Trump and Miller's list (1968:273-4) of uses for large group facilities was similar to that of Trump (Clinchy 1961:189) nearly ten years earlier: (1) motivation, (2) information (providing information not readily available elsewhere), (3) direction (". . . students must be told what they need to know and how they may learn it, . . ."") and (4) written examinations.

The Metropolitan Toronto School Board's Study of Educational Facilities (SEF 1968:84) suggested three additional uses for large group instructional areas: (1) opening exercises, (2) group singing, and (3) teaching with audio-visual devices or educational television.

Stewart (1969:75) listed most of the above uses in addition to those of speaking, writing, and reading by pupils.

Several writers on the use of new media in schools, De Bernardis (1961), Weinstock (1963), and Parker (1964:41), for example, emphasized using audio-visual media in large group facilities.

Finally, Trump (1967:77) commented that ". . . two methods of instruction--by specialist speakers from outside the school, and with

technological aids--were made more useful by large group teaching."

Synthesis. In the questionnaire (Appendix B), the above uses were summarized as follows:

> . . . (1) introducing a unit of study--new concepts, new content and new skills, (2) giving information not readily accessible by means other than a specialist teacher or outside speaker, (3) motivating, (4) enriching; supplementing, (5) generalizing--summarizing, reviewing, (6) administering examinations and standardized tests, and (7) demonstrating to pupils physical skills or certain procedures such as computational procedures.

## Facilities for Small Group Instruction

Uses suggested in the literature. Clinchy (1961:191) listed group examination of new terms and concepts, solution of problems, pupils reaching areas of agreement and disagreement, improving inter-personal relationships, and remedial instruction as the purposes for small group discussion.

Concerning inter-personal relationships, Trump and Baynham (1967:7) submitted that ". . . in the customary classroom, the shy child remains mute, the less inhibited joins enthusiastically, . . . the aggressive demands his share and more of the teacher's time and activity." Further, Trump and Baynham (1967:24) observed that small groups provide opportunity for teachers to measure individuals' growth and development, to try a variety of teaching techniques suited to students' needs, to offer therapy to the group process, that is, ". . . students are induced to examine previously held concepts and ideas, and to alter rigid approaches--to learn how to be better group members . . . ," to permit all students to discover the significance of subject matter rather than to passively receive it, and to provide

students with opportunities to know the teacher on a personal, individual basis.

Trump and Miller (1968:281) said that discussion for clarification of ideas, stimulation of further inquiry, and persuasion by pupils for others to accept beliefs is a major use of small group instruction. They also asserted that

> dividing [the conventional classroom] into two or three subgroups . . . is not a good substitute for regular discussion groups of fifteen or fewer pupils, because a teacher can assist only one group at a time while the other groups lack teacher supervision.

A well-prepared teacher should work with the same small group over a period of time. This situation can provide essential education for citizenship in democracy, for pupils to learn to discuss controversial matters, to communicate well, and to listen to and respect the opinions of others.

The Study of Educational Facilities (SEF 1968:84) listed the following uses for small group instruction:

> ". . . a concept taught to a large group could be reinforced and enriched by subdividing the large group into smaller groups [for] . . . specialized activities in social studies, language arts, and crafts. . . . A small group might tape a planned presentation, view . . . films, use the overhead or opague projector, use a record player, or other listening and viewing equipment, work at charts, models . . . , or prepare a small dramatic performance.

Trump (1967:78) stressed that the small group facilities are <u>not</u> simply small conventional classrooms. The small group raises issues, discusses, explores the ideas presented in the large group activities. "[The small group] . . . allows students equal opportunities for group leadership."

Finally, Goodlad (1963) recommended small groups in suitable facilities for laboratory work and for developing and practising newly

learned basic skills.

Synthesis. In the questionnaire (Appendix B), the above uses were summarized as follows:

> . . . (1) discussing, clarifying new terms and concepts; exploring material presented in large groups, (2) providing pupils with equal opportunities to examine and expound their beliefs and opinions, (4) educating pupils in democratic citizenship--discussing controversial matters, learning to communicate and listen effectively; learning tolerance, (5) allowing pupils to develop personal relationships: pupil-pupil, teacher-pupil, (6) allowing pupils to practise their basic skills (e.g., working on drills in homogeneous groups), and (7) indirectly evaluating pupils, diagnosing their problems, and deciding upon the most suitable individual help or study projects.

## Individual Study Facilities

Uses suggested in the literature. Gross (1969:23-4) introduced the concept of individual study in the following manner:

> Independent study permits the student to develop, with occasional delight, sometimes frustration, his own power to seek out information, organize facts, master material, and generally accept responsibility for his own research. Where might this study take place? . . . At his own desk, in a carrel, . . . in a corner of a classroom or library--anywhere that the school allows the child to find a house of his own.

Trump (1961) listed reading, self-appraisal, listening to and viewing audio-visual media, questioning, analysing, thinking, experimenting, considering, writing, researching, creating, memorizing, and making as the major uses of individual study facilities.

Trump and Miller (1968:265) defined individual study as ". . . the activities in which pupils engage when their teachers stop talking." More specifically, pupils use individual study facilities to master essential knowledge, skills, and values; the teacher has already told the pupils what these are and how to work toward attaining them. Also,

pupils manifest their special interests and talents as enrichment to the basic knowledge and skills. Occasionally two or three students with similar interests work together in a science laboratory, workshop, learning laboratory, viewing room, or carrel. Individual study must be supervised so that pupils who want to work are not disturbed. Ordinarily, teacher-pupil conferences should be scheduled at other times. Finally, careful preparation and perceptiveness on the part of the teacher are required in assigning study projects to individual pupils.

The Metropolitan Toronto School Board concluded that pupils should be encouraged to be creative rather than just busy (SEF 1968: 238).

Independent study, according to Trump and Baynham (1967:36-7) is study in depth by an individual which increases his ability to search for, and his interest in searching for information in related areas of study. It is not for assigned homework. Further, independent study affords opportunities to develop the individual's sense of responsibility and his research skills, and to develop an inquiring mind.

And finally, Beynon (1963:3) observed that ". . .[educators] agree that . . . independent study space coupled with independent study materials is essential for an up-to-date program--and that over the long haul independent study will increase."

Synthesis. The questionnaire (Appendix B), contains the following summary. Independent study facilities are used for:

> . . . (1) meeting individual needs--in terms of aptitudes, creativity, intelligence, remedial needs, limitations; (2)

> allowing pupils to learn self-appraisal, self-discipline, initiative for studying; (3) allowing pupils to read for leisure, enrichment, etc.; (4) allowing pupils to think, reflect, and plan with regard to their regular work and individual projects; (5) allowing pupils to view and listen to audio-visual materials, individually; (6) allowing pupils to use programmed learning materials and learning laboratories; (7) allowing pupils to write assignments, project reports, creative pieces of work; (8) allowing pupils to make things in the practical or fine arts; and, (9) allowing pupils to perform experiments in science, music, etc. . . .

## Instructional Materials Center

### Uses and services suggested in the literature.

Weinstock (1966:19) wrote:

> Since World War One, . . . librarians have given much thought to the role of the library as a teaching instrument. As a result, . . . [new] buildings, concepts of service, and instructional relationships have opened the way for many new ideas in teaching.

Libraries store knowledge in such a way that it is readily accessible. Knowledge has always been recorded in many ways, and ". . . the age-old confusion in the relationship between the carrier and content still plagues us. . . (Weinstock 1966:11-16)." She listed the following pupil activities as important ones in a modern school library: pupils find answers to specific questions, get information, do research assignments, read, gather materials for research, learn how to use the library, study non-print media, and browse through periodicals, newspapers, and anything which the library has. Teachers, Weinstock continued, do as pupils. In addition, however, teachers confer with library staff on relevant materials for class work, on materials which are relevant but not in the library and which might be obtained, and on difficulties which pupils encounter in using the facilities and services. The study-hall concept of the library should be discouraged; the librarian is a consultant and an information retriever.

The clear consensus which exists among writers of the surveyed literature--The Council of Educational Facilities Planners (1968:122), De Bernardis (1961:11), Stewart (1969:88), Taylor (1969:10), and Wright (1965:45), for example--was well expressed and summarized in the Study of Educational Facilities by the Toronto School Board (SEF 1968:24):

> . . . The instructional materials center's main function is to expose children to as great a variety of educationally relevant stimuli as is possible. . . . [There should be] a wide variety of materials readily accessible for use by an individual without concern about complicated machinery or entangled administrative procedure.

Parker (1964:42) concurred with the above and added that the instructional materials center should allow for individual study and small group conferences, and that it should help the teacher select materials. Regarding individual and small group study, the definition of "Instructional Materials Center" used in this study delineates among three somewhat discrete elements: small group instructional areas, individual study facilities, and a media storage and retrieval service. Frequently all three elements are combined and called the school library, materials center, or some other name. However, facilities vary in the details of their physical structure from school to school, that is some libraries may only incorporate one or two of the three commonest elements of the school library. Specifically, this study defines the Instructional Materials Center as a facility which orders, organizes, stores, and retrieves print materials, non-print materials, and technological devices which are used with various of these media. The IMC staff in consultation with the users of the IMC explains what is available concerning specific topics, orders or produces what is needed but not commercially

available, and repairs and services materials and machines. For example, the Study of Educational Facilities (1968:139) explained:

> The library materials center can become the school's center for enrichment and information. Here materials in many different forms will be utilized in an organized way under the direction of professionally trained personnel.

Regarding the services which the Instructional Materials Center will provide, the Study of Educational Facilities of the Metropolitan Toronto School Board (1968:147) suggested that

> . . . the following activities will occur: . . . selection and ordering of materials; receiving and planning for the distribution of materials; making minor repairs; reading, researching, and cataloguing both print and non-print materials; mounting pictures and transparencies; working on order lists, budget, and inventory; advising staff and pupils on materials; [and] drafting book talks and compiling bibliographical materials.

De Bernardis concluded his chapter entitled "The Instructional Materials Center" with this summary (1961:12-13):

> . . . Ordering, producing, maintaining inventory, storing, distributing, previewing, broadcasting, evaluating, informing guiding [are the services provided] by the Materials Center. The pupil [activities] are . . . individual and group listening and viewing, individual study, reading, browsing and research.

Synthesis. The questionnaire (Appendix B) sought responses concerning the Instructional Materials Center as a source of

> . . . print materials (reference books, fiction, non-fiction, pamphlets, periodicals, programmed learning texts, maps, charts, professional journals, etc. for teacher use; print materials (as above) for pupil use; non-print materials (slides, filmstrips, records, tapes, transparencies, models, globes, realia, videotapes--and necessary machines such as projectors and players for teacher use; non-print materials (as above) for pupil use; skilled clerical staff who prepare highly specialized teaching materials which cannot be purchased, and complete lists of information and materials which are available in the IMC for prescribed units of study or for assigned research projects.

Secondly, the questionnaire solicited opinions about the efficiency of the IMC's ". . . cataloguing and storage system . . .

for making information, materials, and A-V equipment readily accessible to [pupils, and to teachers]."

Teachers' Work Room

Introduction. The Metropolitan Toronto School Board (1968:84)

> . . . stressed the need for teachers to work more closely in the planning and sharing of instructional tasks and in evaluation of pupil progress. In terms of space . . . [a] teacher work room and academic storage area is required: to allow teachers their privacy; . . . to provide a seminar room, . . . and [to allow] for preparation and storage.
>
> Parents . . . , visiting psychologists, or social workers often wish to talk privately with one ore more teachers about the progress of a child. . . . A private interview area is therefore recommended.

Uses suggested in the literature. Stewart (1969:108) listed uses of a teacher's work room: ". . . for study, consultation, and preparation." Stewart (1969:100) provided these details:

> In the past teachers have had little space for preparation of instructional materials. . . . It is now generally recognized that teachers need space in which to plan and develop materials for creative teaching, . . . for private planning . . . , for conferences with other staff members and administrators, as well as with students and parents, . . . and for keeping up with developments in his [sic] subject area or areas.

Clinchy (1961a:42), Parker (1964:42), and Trump (1968:330) outlined essentially the same set of uses.

Harap (1959:55) described a ten year continuing study conducted at George Peabody College for Teachers. The study found that relaxation in a pleasant, private room was crucial for even a minimum level of teacher morale.

Synthesis. In the questionnaire (Appendix B), the above uses were summarized as follows:

> . . . preparing instructional materials; private study, research, and planning; cooperative study, research, planning, and evaluation with other teachers--particularly in a team-teaching situation; and private relaxation and reflection.

Ancillary Areas

> Three words that are used with increasing frequency in discussions of educational improvement are excellence, flexibility, and efficiency. . . . Flexibility means having and exploiting a number of alternatives in the use of persons, facilities and resources (Anderson 1966:8).

Gores (letter in Appendix A), SEF (1968:Chapter 2), Clinchy (1961:25,31), Clinchy (1961a:12, 21-24), Stewart (1969:12, 154-5), Gross (1969:Chapter 1), and many other writers agree that flexibility is the key to successful team-teaching, non-graded approaches to teaching, and most approaches to elementary education and education, generally.

Principals of several schools surveyed in the present study emphasized that their own open areas depended upon the existence of readily available ancillary space in order for the necessary degree of flexibility in scheduling, grouping of pupils, and deployment of facilities, materials, and personnel to be attained.

Uses of Ancillary Spaces. This flexibility suggests that many of the same uses which are made of those innovative elements already discussed will form the core of the uses for ancillary areas. Therefore, intended uses which are listed will be very general; different staffs devise various ways of maintaining a high degree of flexibility in their respective schools.

Summary. For the purpose of the questionnaire (Appendix B) the following list of uses was developed:

> [ancillary spaces serve] . . . as alternate or supplementary facilities for large group instruction; as additional small group instructional areas; as a theatre, small auditorium, or assembly room; as a choral, drama, or art room; as an exhibition or display area; as a lunch room; as a playroom in inclement weather; as a waiting room for school buses; as a meeting room for teachers, for community groups, or other adult groups; and as a place for pupils' parties or social functions during or after school hours.

Pupil Guidance and Counselling Center

Although the literature suggested and the panel of experts concurred that the Pupil Guidance and Counselling Center is one of the seven most important innovative elements of school design at present, this element was incorporated into only three schools in the sample of twenty-eight Edmonton schools which were surveyed. And these three barely met the minimum requirements set out by the definition of the facility used for this study.

Stewart wrote (1969:108):

> Of increasing importance is the provision of suitable and adequate space for counselling service. Such service is now generally acceptable for secondary school and college students. The importance of early counselling for children in elementary schools is also receiving widespread emphasis. Many schools providing the service must of necessity utilize makeshift facilities because it was not contemplated when their buildings (even some fairly new ones) were constructed. As new schools are built they should include private office space for this purpose. . . . Minimum requirements are private interview rooms, isolated as to both sight and sound, supplemented . . . by adjoining private testing spaces and therapy areas.

Parker (1964:73), and I/D/E/A (1969:10) both agreed with the above observations of Stewart.

An important reason why counselling is receiving recognition in elementary education is summarized in the report of the Metropolitan Toronto School Board's Study of Educational Facilities (1968:63): "It now seems well accepted that cases of learning disability and social maladjustment should be identified and remedied in the early

school years. . . ."

The Toronto School Board devoted an entire section of its publication to synthesizing the current literature on the philosophy of guidance in the elementary school and to translation of this philosophy into physical facilities required for counselling, and the services to be provided by guidance and counselling (1968:155-159). The Toronto Study's summary of the literature was used to develop the questionnaire section, "Pupil Guidance and Counselling Center," (Appendix B):

> Professionals in the Guidance and Counselling Center can assist a child to become aware of his potential and become interested in working toward it. [Teachers] refer pupils to the GCC (the Pupil Guidance and Counselling Center) for this type of assistance. [Teachers] consult records in the GCC which give information on individual pupils' special needs, abilities, levels of achievement, personality problems, etc. The GCC provides services in diagnostic, aptitude, intelligence, and achievement testing. The GCC assists the staff as a whole to provide an instructional program which contributes to pupils' self-directed learning; . . . the GCC provides group counselling so that . . . pupils are aware of normal developmetnal problems which they likely will encounter; the GCC provides a program for teachers, pupils, and the public which promotes understanding of the aims and policies of the school; the GCC conducts in-service education to assist teachers to increase their understanding of developmental needs and growth patterns of normal, handicapped, and exceptional pupils in elementary school. . . .

## RELATED LITERATURE

The review of the literature did not reveal that there has been any research directly related to the present study. Remotely related in an indirect fashion, however, are many studies which have been done in the following areas: (1) building materials for schools, (2) architectural interpretations of new building concepts such as the open area school, (3) the efficiency, effectiveness, and economy of architectural or construction techniques for climate control, and for acoustical and visual facilitation, and (4) the utilization of school

building space in terms of the number of pupils per hour per square foot of floor area or per cubic foot of enclosed space, and so on. No study of any of these types was viewed as "related research" because it did not emphasize the relationships among facilities, educational activities, and learning outcomes.

## SUMMARY

The questionnaire administered to teachers and administrators and that sent to members of the panel of judges were based upon the intended uses of innovative elements of school design as envisioned by originators and advocates of the innovations. This chapter has described how complete lists of the intended uses of the seven elements were abstracted from the literature and incorporated into the questionnaires used during this study.

Finally, the survey of the literature indicated that the present study is unique.

# Chapter 3

# THE RESEARCH DESIGN

## THE INSTRUMENT

A questionnaire to gather data for this study was specially designed and validated. The questionnaire compared intended uses of innovative elements of school design with the actual patterns of utilization as reported by teachers and administrators in the schools surveyed. Personal data were also collected from the respondents

### The Panel of Expert Judges

The intended uses of each design element were extracted from the literature as described in Chapter 2. However, before these tentative lists were incorporated into the final questionnaire, they were scrutinized independently by the members of a panel of judges deemed expert in school facilities and the relationships between facilities and educational activities which occur therein. The panel consisted of

1. Dr. Donald J. Leu, Dean of the School of Education, San Jose State College, and Chairman of the Council of Educational Facilities Planners,

2. Dr. Roderick G. Robbie, Technical Director of the Metropolitan Toronto School Board's Study of Educational Facilities,

3. Mr. Joseph Blocksidge, Coordinator of the School Buildings Board, Department of Education, Government of Alberta,

4. Dr. Naomi Hersom, an Associate Professor in the Department of Elementary Education, Faculty of Education, The University of Alberta, Edmonton,

5. Mr. G. Fowler and Dr. R. Plaxton, Assistant Superintendent, Elementary Division, Calgary School Board, Calgary, Alberta.

6. Mr. David Cooney, Director of Educational Facilities, The Edmonton Public School System, Edmonton, Alberta.

7. Mr. Bud McNeill, Principal of W. C. Howe Elementary School, Regina, Saskatchewan.*

Rationale for selecting the panel members. Ideas for educational innovations originate at many levels in the hierarchy of education, and within certain advisory groups such as architects or research councils. These ideas are diffused through formal channels, informal channels, professional journals, professional meetings, and conventions. Some innovations are implemented by educators at the upper levels of the hierarchy, others by principals or teachers.

Persons at every level of the hierarchy and in various advisory positions are aware of innovations which have been implemented, and they possess opinions and knowledges about such innovations. Opinions will be colored by the education, experience, expertise, aptitudes, and position--that is, by the point of view of the individual educator. Therefore, the panel was selected from various levels in the hierarchy and from those advisory groups intimately concerned

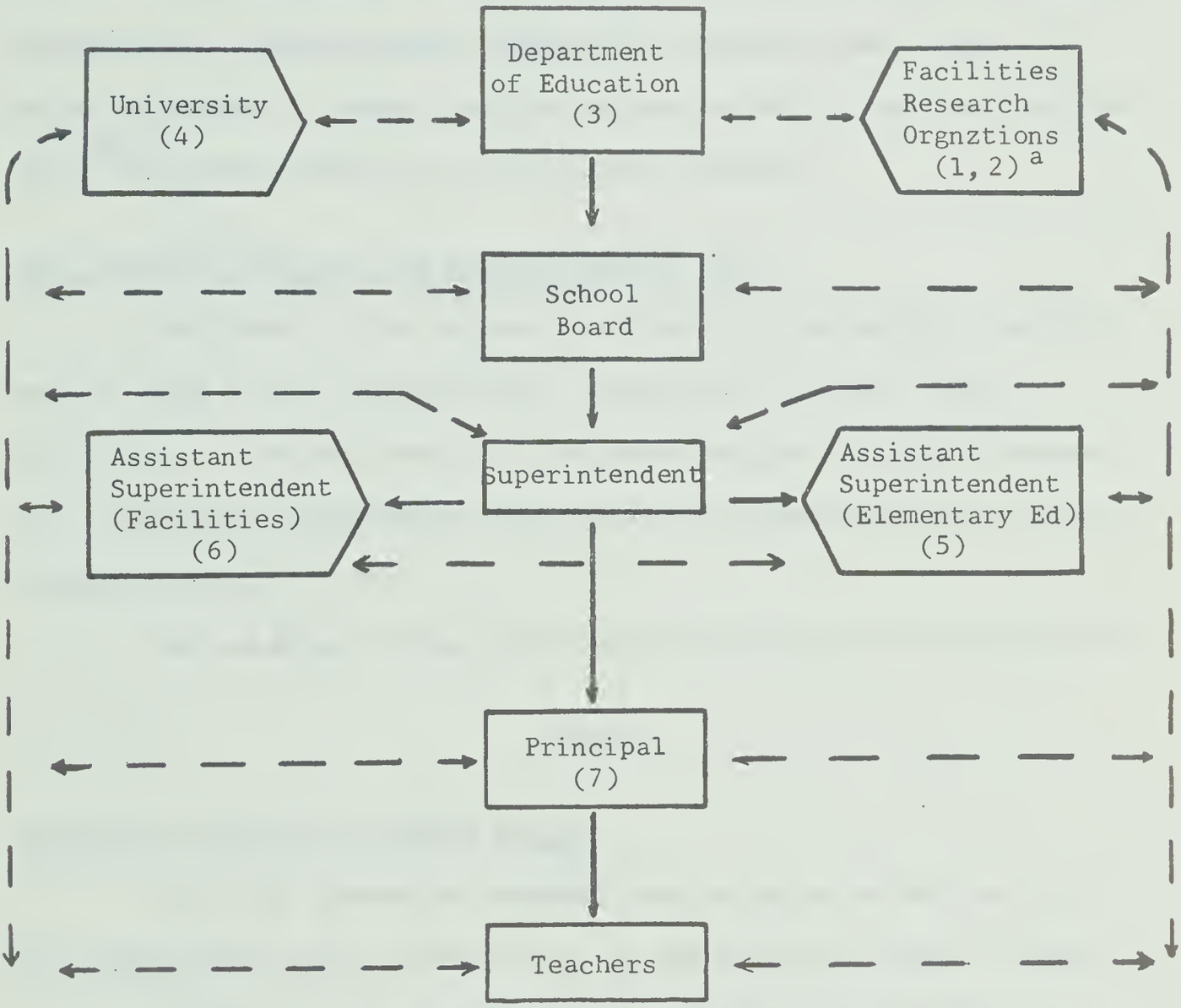
*The numbers correspond to those in Figure 1.

with educational facilities. Figure 1 shows a conceptualization of a hypothetical hierarchy, advisory positions, and possible relationships among the various positions or persons.

Validation procedure. The seven tentatively selected innovative elements and the tentative list of intended uses of each were incorporated into a preliminary questionnaire and sent with a covering letter to each of the selected panel members. Each judge was requested to (1) judge whether the seven elements listed and explained were the most important seven design elements in terms of the judge's perceptions of up-to-date objectives and teaching practices in elementary education, (2) rank the seven elements in order of their importance or usefulness in achieving elementary educational objectives, (3) agree or disagree that each specific use listed under each element was an intended or envisioned use of the innovative element of school design. Equal weights were attached to the opinions of the seven judges regardless of position or geographical location. Appendix A summarizes the responses by the panel of judges to the validation questionnaire. The essence of this preliminary questionnaire was the same as that of the one distributed to sample schools. The formats of the two differ slightly, however, and the final questionnaire does not contain those uses which were rejected on the basis of the judges' responses.

Application of the responses by the panel. The panel of judges substantiated that the seven listed innovative elements were indeed the most important modern innovations. All those uses of each element which the panel as a whole agreed were intended uses were

Figure 1. A Conceptualization of Relationships and Communication Channels Among Various Levels in Education*




*Solid lines represent primarily formal channels; dotted lines represent both formal and informal channels.

[a]Numbers correspond to those enumerating the panel of judges as they are listed by name on pages 23 and 24.

incorporated into the questionnaire proper. Any use for any element with which more than three judges disagreed was not included in the final questionnaire. One judge wrote a letter (Appendix A) rather than completing the questionnaire. However, an alternate judge from a comparable organization was subsequently consulted. Since one other judge did not return a questionnaire, his responses were assumed all to be "disagree" in order that the validation was at least as rigorous as it would have been had all the judges responded.

### The Teachers' Form and the Administrators' Form

Both forms of the refined questionnaire incorporated the same set of items on the utilization of innovatively designed school facilities. A second section of the questionnaire collected personal and professional information; the two forms differed slightly in this second section.

The two forms of the questionnaire are included in Appendix B.

## SAMPLES

### Innovative Elements of School Design

The seven innovative elements were selected on the basis of (1) indications in the literature as to which design elements seemed most significant in terms of specific uses by teachers in classroom activities which help achieve the aims of elementary education, and (2) substantiation of this importance by a panel of expert judges who also ranked the elements in order of perceived importance.

### Schools

Twenty-eight of the twenty-nine Edmonton Public and Separate

elementary schools which--according to the criteria and definitions used in this study--contained one or more of the innovative elements of school design comprised a selected sample of schools to be surveyed. One principal requested that his school be omitted because of a heavy load of prior commitments. The remaining twenty-eight schools received and returned questionnaires. (See Table 1.)

## Respondents

Teachers. All full-time teachers, all part-time teachers, and all teacher-librarians on staffs in the sample schools were given a Teachers' Form of the Questionnaire. Two hundred eighty-four of 429 (66.2 percent of the sample) completed and returned questionnaires.

Administrators. All principals, vice-principals (or assistant principals), coordinators, and counsellors who spent their time in a single school and who taught 150 minutes or more per week were given an Administrators' Form of the Questionnaire. Of a possible 56, 51 (91.1 percent) administrators completed and returned questionnaires.

# DATA

## Collection of Data

Early in 1970, the Edmonton Public School Board and the Edmonton Separate School Board granted permission for the study to be conducted in their elementary schools. The school boards assisted in identifying those schools in their respective systems which--by the definitions and criteria outlined above--were in the sample.

Comprehensive covering letters were sent from the central

Table 1. Distribution and Returns of Questionnaires

| | |
|---|---|
| Number of schools in the sample | 29 |
| Number of schools surveyed | 28 |
| Number of teachers' questionnaires distributed | 429 |
| Number of teachers' questionnaires returned | 284 |
| Percentage return | 66.2 |
| Number of administrators' questionnaires distributed[a] | 56 |
| Number of administrators' questionnaires returned | 51 |
| Percentage return | 91.1 |
| Total number of questionnaires distributed | 485 |
| Total number of questionnaires returned | 335 |
| Percentage return overall | 69.1 |

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[a] Questionnaires were sent to 59 administrators. Returns showed that only 56 of these taught more than 150 minutes per week. Thus three questionnaires are not included in this number--56.

offices of both school systems to principals of the sample schools. A few days later, the appropriate numbers of teachers' and administrators' questionnaires were delivered to the schools by the boards' delivery services.

Approximately two weeks later, the researcher visited all the schools in the sample to pick up the completed questionnaires. In several instances schools were revisited so that late questionnaires could be collected.

## Nature of the Data

Data on the use of innovative elements of school design. The seven elements in the sample were briefly described at the beginning of the seven items in Part One of the Questionnaire. Following the description were statements of educational activities intended to occur in the facility. Respondents were requested to indicate whether or not, and to what extent they made use of the facility in each of the ways listed; they did so by marking one of "never," "a few times per year," "a few times per month," "a few times per week," or "a few times per day." For some items, respondents were asked their opinions on the usefulness of a facility, or on the existence and quality of specific aspects of a facility, or specific services provided by the facility. In most cases, however, respondents indicated whether they practised the listed uses of each facility, and if so to what extent. (See Table 2.)

Personal information. In Part Two of the Questionnaire, teachers and administrators responded to several detailed questions designed to collect personal and professional information about the

Table 2. Key to Letter-Responses Referred to in Tables and in the Text

| Response Choices Used in the Questionnaire and Referred to In Tables and the Text | Meanings of the Letters[a] |
|---|---|
| A | "never" |
| B | "a few times per year" |
| C | "a few times per month" |
| D | "a few times per week" |
| E | "a few times per day" |

[a] For example, in the questionnaire (Item A, (1) respondents were asked to indicate how often they used Large Group Instructional Facilities for introducing a unit of study. By circling A, the respondent is replying "never;" by circling C, on the other hand, the respondent is reporting that he made use of the Large Group Facility several times per month.

respondents.

## ANALYSES OF DATA

### Coding of the Data

The questionnaires were printed in such a way that responses could be transcribed directly onto IBM computer punch cards. This permitted the use of computer programs for detailed analyses.

### Description Procedures

The main purpose of the study was to describe the extent of utilization and the patterns of utilization of the seven innovative elements of school design in Edmonton Public and Separate schools. Therefore, the data were used primarily for constructing tables depicting (1) the extent of utilization as frequency profiles, and (2) intra-element utilization patterns and inter-element utilization patterns.

Frequency profiles and element utilization patterns were defined in Chapter 1, and will be discussed further in Chapter 4.

Next, the percentage distribution of answers was calculated and tabulated for each multiple choice item which sought to reflect the general usefulness of certain facilities ("very useful," "moderately useful," or "of limited use") or which inquired whether certain services were provided in a facility ("yes," "no").

Frequency profiles, utilization patterns, and percentage distributions were calculated for the following types of groups of respondents from the two samples: (1) all respondents, all teachers, all administrators; (2) subgroups of these based on such factors as

school system, school size, school type, grade or division taught; and (3) subgroups defined in terms of other personal or demographic data which were supplied by respondents in Part Two of the Questionnaire.

Statistical Procedures

The only statistical treatment required was with respect to subproblem 3--correlations between the utilization of various subgroups within the two samples of respondents. The inter-element ranks, which are the most general measure of utilization, were compared using a Kendall's W in cases where three groups were compared, and a Spearman's rho where two groups were involved. The rationale for treating the most general measure first, and a discussion of W and rho are found in Chapter 5 under "Methodology for Making Comparisons among Groups."

The probability level of 0.05 was selected and used for testing the statistical significance of W and rho.*

The final step in the statistical procedure was to test the differences in overall extent of utilization profiles in instances where the rankings were substantially different--that is, where the W or rho was insufficiently high to be significant at the 0.05 level. A two-sample Kolmogorov-Smirnov test was used.

APL computer programs were devised and employed for calculating W's and $\rho$'s, and D-maximums in the Kolmogorov-Smirnov tests.

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*Strictly speaking, the significance of S rather than that of W is tested where (Siegel 1956:231):

$$W = \frac{S}{1/12\,k^2(N^3 - N)}$$

and where S = sum of squares of the observed deviations from the mean of the sum of the ranks,
k = the number of sets of rankings, and
N = the number of objects ranked.

# Chapter 4

# DESCRIPTION OF THE SAMPLES

## INTRODUCTION

In this chapter the extent of utilization and the patterns of utilization of the seven elements by both the sample of teachers and the sample of administrators are described.

## REVIEW OF THE THREE DESCRIPTION CATEGORIES

### Extent of Utilization

Extent of utilization was defined as a series of five percentage values representing the frequency of responses in the respective categories of extents of utilization--A, B, C, D, and E. (Table 2, page 34.) These series of percentages will be referred to as "frequency profiles," or "extent of utilization profiles." For a given subgroup, there is one frequency profile for every use of each of the seven elements. Also, there is an overall frequency profile for each element as a whole. The overall frequency profile is the average of the profiles for all the ways in which that element was utilized by the group of respondents in question.

Patterns of Utilization

Patterns of utilization reflect the relative extents of utilization which a particular subgroup of respondents makes of those elements to which it has access. This relative extent is expressed by ranking utilization profiles from largest (rank = 1) to smallest.

Intra-element utilization patterns. These patterns reflect one innovative element at a time. The frequency profiles for each of the listed ways in which the element can be used are ranked.

Inter-element utilization patterns. These patterns reflect the overall extents of utilization which a group makes of those elements to which it has access. The overall frequency profiles of all the elements are ranked. The inter-element pattern is derived from both the utilization profile and the intra-element patterns; therefore, it is the broadest or most generalized measure of the three.

## THE SAMPLE OF TEACHERS

The frequency profiles shown in Table 3 for seven intended uses of Element One, Large Group Instructional Facilities indicate that a comparatively large proportion of the 194 possible teachers responded by marking D or E (several times a week or day) for Use 1. Only Use 4, enriching and supplementing, had a heavier response in the D category (several times per week). On the other hand, Use 4 had fewer respondents in E. When the whole profiles are compared, Use 1, introducing a unit of study, was practised most frequently, and Use 4,

to the second greatest extent. The relative extents to which the remaining five uses occurred are shown in the last column of Table 3.

Table 3 provides averages for the profiles of the seven intended uses of Large Group Instructional Facilities to yield an overall profile for Element One. Summary Table, page 51, lists the weighted total of the overall profile for Element One together with the weighted totals for each of the other six elements. From these, the relative overall extents of utilization can be determined and ranked in a similar way to that in which the individual uses of Element One were ranked. The ranking of the overall extents of the six elements is the inter-element pattern of utilization.

Table 4 shows the utilization profiles for the intended uses of Small Group Instructional Areas. The sample of teachers employed Use 6, having pupils practise newly learned skills, to the greatest extent. Use 5, allowing pupils to develop personal relationships, occurred to the second greatest extent; and, democratic education, Use 4, the least. The overall profile and the overall weighted total given in the bottom row of Table 4 will be used in summary tables for calculating the inter-element pattern of utilization for the sample of teachers. At this point, Element Two ranks higher than Element One.

The overall weighted total for Element Three, Individual Study Facilities, falls between that of Element One and that of Element Two. Table 5 shows the individual profiles of the intended uses of this element: reading for leisure and pleasure ranked first; meeting individual needs ranked second; writing assignments, third; and experimenting, last.

Table 3. Description of Teachers' Responses to Items Under Element One: Extent of Utilization Profile, and Intra-Element Pattern*

| Uses of Large Group Instructional Facilities | EXTENT OF UTILIZATION FREQUENCY PROFILE | | | | | Wt. Total+ | PATTERN (Rank) |
|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | | |
| 1-Introducing a unit of study | 21.1% | 28.9% | 20.6% | 19.1% | 10.3% | 169 | 1 |
| 2-Giving information not accessible | 20.6 | 49.0 | 19.6 | 7.7 | 3.1 | 124 | 5 |
| 3-Motivating | 25.8 | 29.9 | 31.6 | 13.4 | 9.3 | 151 | 4 |
| 4-Enriching; supplementing | 20.1 | 25.3 | 28,9 | 20.6 | 5.2 | 166 | 2 |
| 5-Generalizing; summarizing | 24.7 | 28.4 | 23.2 | 13.9 | 9.8 | 156 | 3 |
| 6-Administering exams, tests | 45.5 | 36.6 | 16.0 | 1.5 | 0.5 | 75 | 7 |
| 7-Demonstrating skills or procedures | 47.9 | 24.7 | 8.2 | 12.9 | 6.2 | 105 | 6 |
| OVERALL FREQUENCY PROFILE | 35.6 | 28.4 | 18.0 | 11.9 | 6.1 | 125 | |

*N = 194

+Weighted Total = (Ax0)+(Bx1)+(Cx2)+(Dx3)+(Ex4) is used in determining ranks.

Table 4. Description of Teachers' Responses to Items under Element Two: Extent of Utilization Profile, and Intra-Element Pattern*

| Uses of Small Group Instructional Facilities | EXTENT OF UTILIZATION FREQUENCY PROFILE | | | | | Wt. Total+ | PATTERN (Rank) |
|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | | |
| 1-Exploring new concepts | 10.3% | 13.8% | 14.4% | 30.3% | 31.3% | 259 | 3 |
| 2-Pupil opportunity for group leadership | 12.8 | 17.4 | 25.6 | 26.2 | 17.9 | 219 | 6 |
| 3-Pupil opportunity to examine beliefs | 11.8 | 17.9 | 25.1 | 23.1 | 22.1 | 225 | 5 |
| 4-Democratic citizenship, tolerance education | 15.9 | 16.4 | 24.1 | 24.6 | 19.0 | 214 | 7 |
| 5-Pupils develop personal relationships | 9.2 | 11.3 | 17.4 | 30.3 | 31.8 | 264 | 2 |
| 6-Pupils practise new skills | 5.6 | 6.7 | 16.9 | 34.4 | 36.4 | 289 | 1 |
| 7-Teacher diagnosing of special needs | 12.3 | 14.9 | 19.5 | 31.8 | 21.5 | 234 | 4 |
| OVERALL FREQUENCY PROFILE | 21.2 | 12.4 | 18.1 | 25.4 | 22.9 | 217 | |

*N = 195

+Weighted totals = (Ax0)+(Bx1)+(Cx2)+(Dx3)+(Ex4) are used in determining ranks.

Table 5. Description of Teachers' Responses to Items Under Element Three: Extent of Utilization Profile, and Intra-Element Pattern*

| Uses of Individual Study Facilities | EXTENT OF UTILIZATION FREQUENCY PROFILE | | | | | Wt. Total+ | PATTERN (Rank) |
|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | | |
| 1-Meeting individual needs | 9.2% | 10.2% | 24.0% | 37.8% | 18.9% | 247 | 2 |
| 2-Pupils learn self-appraisal, self-discipline | 11.7 | 12.2 | 23.5 | 35.7 | 16.8 | 234 | 4 |
| 3-Pupils read for leisure, pleasure, enrichment, etc. | 6.6 | 4.1 | 13.3 | 50.0 | 26.0 | 285 | 1 |
| 4-Pupils think, reflect, plan | 16.8 | 14.8 | 27.6 | 31.6 | 9.2 | 202 | 5 |
| 5-Pupils view, listen to A-V materials | 15.8 | 25.5 | 34.2 | 19.4 | 5.1 | 173 | 6 |
| 6-Pupils use learning laboratories | 53.1 | 17.3 | 13.8 | 14.8 | 1.0 | 93 | 9 |
| 7-Pupils write assignments of creative works | 9.2 | 9.2 | 32.1 | 37.2 | 12.2 | 234 | 3 |
| 8-Pupil make things in fine or practical arts | 26.5 | 23.0 | 31.1 | 16.8 | 2.6 | 146 | 7 |
| 9-Pupils experiment in science, music, etc. | 35.7 | 30.6 | 17.3 | 14.8 | 1.5 | 116 | 8 |
| OVERALL FREQUENCY PROFILE | 28.0 | 14.8 | 21.8 | 25.9 | 9.5 | 174 | |

*N = 196

+Weighted Total = (0xA)+(Bx1)+(Cx2)+(Dx3)+(Ex4)

Table 6, which reports on teacher utilization of the services of the Instructional Materials Center, Element Four, shows that the main uses which teachers made of their IMC's were as a source of print materials for their own use, and for their pupils' use. Next were the IMC as a source of non-print materials and audio-visual equipment for teacher use and then for pupil use. Table 7 does not deal with extent of utilization, but rather with teachers' ratings of the efficiency of their IMC's. Generally, more than 80 percent of the 273 teachers responding to these items agreed that their IMC's were efficient in providing the services suggested in the questionnaire (and listed in the first column of Table 6.)

Two hundred and nineteen of the teachers in the sample reported that they had access to a Teachers' Work Room. The extent of utilization profiles from these teachers, as reported in Table 8, indicates that the Teachers' Work Room was used most for preparation of instructional materials. However, teachers did to some extent use their work room for relaxation, private study, and cooperative study and planning. Table 9 shows that of the 219 teachers in the sample responding to the section of the questionnaire dealing with the Teachers' Work Room, more than 70 percent felt that the particular design and furnishings of their respective schools' work rooms were useful.

Table 10 lists ten suggested uses which teachers can make of ancillary areas. Use 4, as a choral, drama, or art room, was chosen most frequently. Use 1, as extra space for large group instruction, was next, and Use 3, as a theatre or small assembly toom, was third. However, the overall profile indicates that teachers perceive their extent of utilization of this facility to be rather low. Table 13 will

Table 6. Description of Teachers' Responses to Items Under Element Four: Extent of Utilization Profile, and Intra-Element Pattern*

| Uses of the Instructional Materials Center | EXTENT OF UTILIZATION FREQUENCY PROFILE | | | | | Wt. Total+ | PATTERN (Rank) |
|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | | |
| As a source of-- | | | | | | | |
| 1-Print materials for teachers | 5.1% | 14.3% | 19.8% | 46.9% | 13.9% | 250 | 1 |
| 2-Print materials for pupils | 11.7 | 8.1 | 22.7 | 36.6 | 20.9 | 247 | 2 |
| 3-Non-print materials for teachers | 7.3 | 16.1 | 28.2 | 38.1 | 10.3 | 228 | 4 |
| 4-Non-print materials for pupils | 8.1 | 7.3 | 30.0 | 45.4 | 9.2 | 240 | 3 |
| 5-Skilled clerical staff to prepare specific materials | 53.5 | 24.9 | 13.9 | 7.0 | 0.7 | 77 | 6 |
| 6-Complete lists of information and materials available | 27.8 | 35.9 | 25.6 | 9.5 | 1.1 | 120 | 5 |
| OVERALL FREQUENCY PROFILE | 18.9 | 17.8 | 23.4 | 30.6 | 9.3 | 194 | |

*N = 273

+Weighted Total = (Ax0)+(Bx1)+(Cx2)+(Dx3)+(Ex4)

Table 7. Teachers' Rated Efficiency of the Instructional Materials Center, Element Four*

| Items: | Percentage Distribution of Ratings | | |
|---|---|---|---|
| | 1** | 2 | 3 |
| 1-How efficient is the cataloguing and storage system used in your IMC for making information and materials, and A-V equipment readily available to TEACHERS? | 6.6% | 54.2% | 39.2% |
| 2-How efficient is the cataloguing and storage system used in your IMC for making information, materials, and A-V equipment readily accessible to PUPILS? | 15.0% | 55.7% | 29.3% |
| 3-OVERALL RATING | 10.8% | 54.9% | 34.3% |

*N = 273

**Key to ratings: 1 - inefficient
2 - moderately efficient
3 - very efficient

Table 8. Description of Teachers' Responses to Items Under Element Five: Extent of Utilization Profile, and Intra-Element Pattern*

| Uses of the Teachers' Work Room | EXTENT OF UTILIZATION FREQUENCY PROFILE | | | | | Wt. Total | PATTERN (Rank) |
|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | | |
| 1-Preparation of instructional materials | 6.8% | 7.3% | 19.2% | 44.7% | 21.9% | 268 | 1 |
| 2-Private study, research, and planning | 36.1 | 13.2 | 23.3 | 24.2 | 3.2 | 145 | 2 |
| 3-Cooperative study, research, and planning | 34.7 | 21.0 | 24.7 | 17.4 | 2.3 | 132 | 3 |
| 4-Private relaxation and reflection | 56.6 | 13.7 | 7.3 | 10.0 | 2.3 | 10 | 4 |
| OVERALL FREQUENCY PROFILE | 54.6 | 9.6 | 12.6 | 16.4 | 6.8 | 111 | |

*N = 219

+Weighted total = (Ax0)+(Bx1)+(Cx2)+(Dx3)+(Ex4)

Table 9. The Teachers' Rated Usefulness of the Teachers' Work Room in Terms of Facilities, Privacy, Accessibility to Materials, Books, Machines

| | Very Useful | Moderately Useful | Not Very Useful |
|---|---|---|---|
| | 22.4% | 49.3% | 28.3% |

N = 219

Table 10. Description of Teachers' Responses to Items Under Element Six: Extent of Utilization Profile, and Intra-Element Pattern*

| Uses of Ancillary Areas | EXTENT OF UTILIZATION FREQUENCY PROFILE | | | | | Wt. Total | PATTERN (Rank) |
|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | | |
| 1-As supplementary facilities for large group instruction | 31.3% | 23.2% | 29.0% | 14.3% | 2.2% | 133 | 2 |
| 2-As additional small group instructional area | 38.8 | 21.4 | 21.9 | 14.3 | 3.6 | 122 | 4 |
| 3-As a theatre, small auditorium, or assembly room | 27.7 | 28.6 | 30.4 | 12.9 | 0.4 | 129 | 3 |
| 4-As a choral, drama, or art room | 32.1 | 24.6 | 17.4 | 23.2 | 2.7 | 140 | 1 |
| 5-As an exhibition or display area | 60.3 | 31.3 | 3.6 | 4.5 | 0.5 | 54 | 6 |
| 6-As a lunch room | 61.6 | 11.6 | 2.7 | 18.3 | 5.8 | 95 | 5 |
| 7-As a playroom in inclement weather | 65.6 | 25.0 | 4.9 | 3.1 | 1.3 | 50 | 7 |
| 8-As a waiting room for school buses | 91.1 | 4.0 | 2.7 | 1.3 | 0.0 | 17 | 10 |
| 9-As a meeting room for home & school or adult groups | 58.5 | 36.6 | 3.6 | 1.3 | 0.0 | 48 | 8 |
| 10-As a place for pupils' parties | 65.6 | 31.7 | 1.3 | 1.3 | 0.0 | 38 | 9 |
| OVERALL FREQUENCY PROFILE | 60.2 | 20.1 | 10.2 | 8.1 | 1.5 | 71 | |

*N = 224

+Weighted total = (Ax0)+(Bx1)+(Cx2)+(Dx3)+(Ex4)

show that Ancillary Areas were used by teachers to a lesser extent than any of the other innovative elements of school design.

A very few teachers in the sample had access to a Pupil Guidance and Counselling Center, Element Seven. Table 11 reports the responses of 24 teachers. As was the case with Ancillary Areas, the Pupil Guidance and Counselling Center was used to a very limited extent according to the overall extent of utilization profile, and the low ranking in the inter-element pattern presented in Table 13.

Table 12 summarizes the teacher-respondents' answers to a series of questions concerning the services provided by the Pupil Guidance and Counselling Center. Seventy-nine percent (79.2%) of the 24 teachers agreed that the Center provided testing services; however, the remaining items were answered negatively by a majority.

Table 13 collects the weighted total of the overall extent of utilization profiles and employs them in establishing the inter-element pattern of utilization which characterizes the teacher sample. Small Group Instructional Facilities were used to a greater extent than any other; the Instructional Materials Center ranked second, the Individual Study Facilities, third; Large Group Instructional Area, fourth; and so on.

Finally, Table 14 summarizes the information which has been presented on Tables 3 through 13.

Table 11. Description of Teachers' Responses to Items Under Element Seven: Extent of Utilization, and Intra-Element Pattern*

| Uses of the Pupil Guidance and Counselling Center | EXTENT OF UTILIZATION FREQUENCY PROFILE | | | | | Wt. Total+ | PATTERN (Rank) |
|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | | |
| 1-Assists child to become aware of his potential and to work toward it | 37.5% | 37.5% | 16.7% | 8.3% | 0.0% | 96 | 2 |
| 2-Keeps records on individuals' special needs, abilities, achievement, etc. | 25.0 | 33.3 | 41.7 | 0.0 | 0.0 | 117 | 1 |
| OVERALL FREQUENCY PROFILE | 31.3 | 35.4 | 29.2 | 4.2 | 0.0 | 106 | |

*N = 24

+Wt. total is weighted total.

Table 12. Description of Teachers' Responses to Items Under Element Seven: Services Provided by the Pupil Guidance and Counselling Center*

| ITEM | Percentage Distribution of Responses Yes | No |
|---|---|---|
| 1-The GCC provides services in diagnostic, intelligence, and achievement testing. | 79.2% | 20.8% |
| 2-The GCC attempts to assist staff to provide programs which contribute to pupils' self-directed learning. | 37.5 | 62.5 |
| 3-The GCC is successful in the above attempt. | 37.5 | 62.5 |
| 4-The GCC provides group counselling so that pupils are aware of normal developmental problems | 45.8 | 54.2 |
| 5-The GCC provides a program for teachers, pupils, and the public promoting understanding of aims, policies. | 8.3 | 91.7 |
| 6-GCC conducts in-service to assist teachers' understanding of growth and development of normal, handicapped and exceptional children. | 4.2 | 95.8 |

*N = 24

Table 13. Inter-Element Pattern of Utilization by all Teachers in the Sample*

| Element | Overall Weighted Total** | INTER-ELEMENT PATTERN |
|---|---|---|
| One - Large Group Instructional Facilities | 125 | 4 |
| Two - Small Group Instructional Facilities | 217 | 1 |
| Three - Individual Study Facilities | 174 | 3 |
| Four - Instructional Materials Center | 194 | 2 |
| Five - Teachers' Work Room | 111 | 5 |
| Six - Ancillary Areas | 71 | 7 |
| Seven - Pupil Guidance and Counselling Center | 106 | 6 |

*Source: the overall weighted totals were calculated and shown at the extreme lower right of Tables 3, 4, 5, 6, 8, 10, and 11.

**Weighted total = (Ax0)+(Bx1)+(Cx2)+(Dx3)+(Ex4)

Table 14. Summary Description of the Sample of Teachers Derived from Teachers' Responses to Questionnaire Items 1 through 7*

| ELEMENT | (N) | OVERALL EXTENT OF UTILIZATION PROFILES | | | | | | INTER-ELEMENT PATTERN (Rank) | INTRA-ELEMENT PATTER (Rank) Use number-- | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | C | D | E | Weighted Totals | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| ONE | 194 | 35.6%[a] | 28.4% | 18.0% | 11.9% | 6.1% | 125[b] | 4[b] | 1 | 5 | 4 | 2 | 3 | 7 | 6[c] | | | |
| TWO | 195 | 21.1 | 12.4 | 18.1 | 25.4 | 22.9 | 217 | 1 | 3 | 6 | 5 | 7 | 2 | 1 | 4 | | | |
| THREE | 196 | 28.0 | 14.8 | 21.8 | 25.9 | 9.5 | 174 | 3 | 2 | 4 | 1 | 5 | 6 | 9 | 3 | 7 | 8 | |
| FOUR | 273 | 18.9 | 17.8 | 23.4 | 30.4 | 9.3 | 194 | 2 | 1 | 2 | 4 | 3 | 6 | 5 | | | | |
| FIVE | 219 | 54.6 | 9.6 | 12.6 | 16.4 | 6.8 | 111 | 5 | 1 | 2 | 3 | 4 | | | | | | |
| SIX | 224 | 60.2 | 20.1 | 10.2 | 8.1 | 1.5 | 71 | 7 | 2 | 4 | 3 | 1 | 6 | 5 | 7 | 10 | 8 | 9 |
| SEVEN | 24 | 31.3 | 35.4 | 29.2 | 4.2 | 0.0 | 106 | 6 | 2 | 1 | | | | | | | | |

*Source: Tables 3, 4, 5, 6, 8, 10, 11, and 13 of the present study.

[a]These percentages from OVERALL FREQUENCY PROFILES; e.g., see bottom row of Table 3.

[b]The weighted totals and ranks from Table 13.

[c]These ranks--horizontally presented--are taken from the last column in Table 3.

## THE SAMPLE OF ADMINISTRATORS

The frequency profiles shown in Table 15 indicate that when administrators were engaged in Large Group Instruction they practised Uses 1, 3, and 4 equally extensively: approximately 30 percent of the forty-one responding administrators used this facility weekly or daily for introducing a new topic, presenting motivational experiences, and enrichment. Use 5, generalizing, summarizing, ranked fourth; giving examinations or standardized tests ranked last.

When the profiles for the seven uses were averaged to yield an overall extent profile for Large Group Instructional Facilities, the overall weighted total was 138. A summary table (Table 25) will compare this value with the weighted totals of the overall extent of utilization profiles of the other six innovative elements of school design.

According to Table 16, administrators employed Use 6 of Small Group Instructional Facilities, Element Two, most often: having pupils practise new skills. Use 1, exploring new concepts, was the second most common use. Developing personal relationships, and teacher diagnosis of pupils' special needs--Uses 5 and 7 respectively--were tied in third place. Ranked seventh was Use 3, allowing pupils to examine their beliefs, and to exchange ideas with other pupils on their respective beliefs.

Meeting individual needs was the highest ranking use of Element Three, Individual Study Facilities (Table 17). Second was allowing pupils to learn self-appraisal and self-discipline. Next were allow-

Table 15. Description of Administrators' Responses to Items Under Element One: Extent of Utilization Profile, and Intra-Element Pattern*

| Uses of Large Group Instructional Facilities | A | B | C | D | E | Wt. Total+ | PATTERN (Rank) |
|---|---|---|---|---|---|---|---|
| 1-Introducing a unit of study | 14.6% | 24.4% | 31.7% | 29.3% | 0.0% | 176 | 1 |
| 2-Giving information not accessible | 14.6 | 46.3 | 26.8 | 7.3 | 4.9 | 142 | 5 |
| 3-Motivating | 17.1 | 26.8 | 22.0 | 31.7 | 2.4 | 176 | 1 |
| 4-Enriching: supplementing | 17.1 | 26.8 | 26.8 | 22.0 | 7.3 | 176 | 1 |
| 5-Generalizing; summarizing | 22.0 | 26.8 | 29.3 | 22.0 | 0.0 | 151 | 4 |
| 6-Administering exams or tests | 29.3 | 46.3 | 22.0 | 2.4 | 0.0 | 78 | 7 |
| 7-Demonstrating skills or procedures | 36.6 | 24.4 | 22.0 | 17.1 | 0.0 | 120 | 6 |
| OVERALL FREQUENCY PROFILE | 27.4 | 29.6 | 22.9 | 18.0 | 2.1 | 138 | |

*N = 41

+Weighted total = (Ax0)+(Bx1)+(Cx2)+(Dx3)+(Ex4)

Table 16. Description of Administrators' Responses to Items Under Element Two: Extent of Utilization, and Intra-Element Pattern*

| Uses of Small Group Instructional Facilities | EXTENT OF UTILIZATION FREQUENCY PROFILE | | | | | Wt. Total | PATTERN (Rank) |
|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | | |
| 1-Exploring new concepts | 2.5% | 12.5% | 10.0% | 52.5% | 22.5% | 280 | 2 |
| 2-Pupil opportunity for group leadership | 7.5 | 17.5 | 25.0 | 42.5 | 7.5 | 225 | 6 |
| 3-Pupil opportunity to examine beliefs | 17.5 | 7.5 | 30.0 | 35.0 | 10.0 | 213 | 7 |
| 4-Democratic, citizenship, and tolerance education | 10.0 | 15.0 | 25.0 | 37.5 | 12.5 | 228 | 5 |
| 5-Pupils develop personal relationships | 7.5 | 7.5 | 15.0 | 52.5 | 17.5 | 265 | 3½ |
| 6-Pupils practise new skills | 7.5 | 7.5 | 7.5 | 47.5 | 30.0 | 285 | 1 |
| 7-Teacher diagnosing of special needs | 10.0 | 5.0 | 12.5 | 55.0 | 17.5 | 265 | 3½ |
| Overall Frequency Profile | 18.1 | 9.4 | 15.9 | 41.3 | 15.3 | 226 | |

*N = 40

Table 17. Description of Administrators' Responses to Items Under Element Three: Extent of Utilization, and Intra-Element Pattern*

| Uses of Individual Study Facilities | EXTENT OF UTILIZATION FREQUENCY PROFILE | | | | | Wt. Total | PATTERN (Rank) |
|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | | |
| 1-Meeting individual needs | 8.3% | 8.3% | 25.0% | 30.6% | 27.8% | 261 | 1 |
| 2-Pupils learn self-appraisal, self-discipline | 11.1 | 8.3 | 19.4 | 44.4 | 16.7 | 247 | 2 |
| 3-Pupils read for leisure, pleasure, enrichment, etc. | 11.1 | 5.6 | 27.8 | 41.7 | 13.9 | 242 | 3½ |
| 4-Pupils think, plan, reflect | 8.3 | 8.3 | 30.6 | 38.9 | 13.9 | 242 | 3½ |
| 5-Pupils view, listen to A-V materials | 16.7 | 19.4 | 47.2 | 13.9 | 2.8 | 167 | 5 |
| 6-Pupils use learning laboratories | 41.7 | 19.4 | 30.6 | 5.6 | 2.8 | 108 | 8 |
| 7-Pupils write assignments or creative works | 5.6 | 8.3 | 36.1 | 44.4 | 5.6 | 236 | 4 |
| 8-Pupils make things in fine or practical arts | 30.6 | 19.4 | 36.1 | 13.9 | 0.0 | 133 | 7 |
| 9-Pupils experiment in science, music, etc. | 27.8 | 19.4 | 30.6 | 19.4 | 2.8 | 150 | 6 |
| OVERALL FREQUENCY PROFILE | 25.0 | 11.7 | 28.3 | 26.4 | 8.6 | 182 | |

*N = 36

ing pupils to read for various purposes and allowing pupils to think, plan, and reflect.

Table 18 indicates that administrators in their teaching made most use of Element Four, the Instructional Materials Center, as a source of print materials for pupils. The second most important use was as a source of print materials for their own use. The overall profile indicates that almost half of the administrators in their teaching roles made use of the IMC several times a week or several times per day. Table 19 shows that approximately 97 percent of the responding administrators rated their respective IMC's as either efficient or highly efficient.

According to Table 20, administrators used the Teachers' Work Room (Element Five) first for preparing instructional materials, second for cooperative planning, third for private research, and last for private reflection and relaxation. Almost 80 percent of the same group rated the Teachers' Work Room as useful (Table 21).

Table 22 reveals that the overall extent to which Ancillary Areas were used in those ways suggested by the questionnaire was much lower than the extent to which the other elements were utilized. The most often noted use of Element Six was for supplementing large and small group instructional space.

Only five administrators who responded were also in schools which contained Element Seven, Pupil Guidance and Counselling Centers. However, as reported in Table 23, those five indicated that the major use of the Center was for keeping records. With respect to the services provided by the Center, administrators agreed that this element

Table 18. Description of Administrators' Responses to Items Under Element Four: Extent of Utilization, and Intra-Element Pattern*

| Uses of the Instructional Materials Center | EXTENT OF UTILIZATION FREQUENCY PROFILE | | | | | Wt. Total | PATTERN (Rank) |
|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | | |
| As a source of-- | | | | | | | |
| 1-Print materials for teachers | 8.5 | 6.4 | 34.0 | 38.3 | 12.8 | 240 | 2 |
| 2-Print materials for pupils | 12.8 | 6.4 | 12.8 | 46.8 | 21.3 | 257 | 1 |
| 3-Non-print materials for teachers | 4.3 | 14.9 | 38.3 | 29.8 | 12.8 | 232 | 3 |
| 4-Non-print materials for pupils | 8.5 | 12.8 | 31.9 | 36.2 | 10.6 | 228 | 4 |
| 5-Skilled clerical help to prepare special materials | 34.0 | 31.9 | 27.7 | 6.4 | 0.0 | 106 | 6 |
| 6-Complete lists of information and materials available | 21.3 | 16.0 | 30.1 | 29.4 | 9.6 | 153 | 5 |
| OVERALL FREQUENCY PROFILE | 14.9 | 16.0 | 30.1 | 29.4 | 9.6 | 203 | |

*N = 47

Table 19. Administrators' Rated Efficiency of the Instructional Materials Center, Element Four*

| | Percentage Distribution of Ratings | | |
|---|---|---|---|
| | 1** | 2 | 3 |
| 1-How efficient is the cataloguing and storage system used in your IMC for making information and materials, and A-V equipment readily available to TEACHERS? | 0.0% | 57.4% | 42.6% |
| 2-How efficient is the cataloguing and storage system used in your IMC for making information, materials, and A-V equipment readily accessible to PUPILS? | 6.4% | 53.2% | 40.4% |
| OVERALL RATING | 3.2% | 53.4% | 41.5% |

*N = 47

**Key to ratings: 1 - inefficient
2 - moderately efficient
3 - very efficient

Table 20. Description of Administrators' Responses to Items Under Element Five: Extent of Utilization, and Intra-Element Pattern*

| Uses of the Teachers' Work Room | EXTENT OF UTILIZATION FREQUENCY PROFILE | | | | | Wt. Total | PATTERN (Rank) |
|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | | |
| 1-Preparation of Instructional materials | 8.1 | 24.3 | 10.8 | 43.2 | 13.5 | 239 | 1 |
| 2-Private Study, research and planning | 37.8 | 21.6 | 18.9 | 13.5 | 8.1 | 132 | 3 |
| 3-Cooperative study, research and planning | 27.0 | 16.2 | 27.0 | 16.2 | 13.5 | 173 | 2 |
| 4-Private reflection and relaxation | 62.2 | 10.8 | 5.4 | 13.5 | 8.1 | 95 | 4 |
| OVERALL FREQUENCY PROFILE | 54.5 | 13.1 | 10.8 | 14.4 | 7.2 | 107 | |

*N = 37

Table 21. Administrators' Rated Usefulness of the Teachers' Work Room*

| ITEM: | Percentage Distribution of Responses | | |
|---|---|---|---|
| | Very Useful | Moderately Useful | Not Very Useful |
| In terms of facilities, privacy, and accessibility to materials, books, machines and to instructional areas--how useful do you judge the Teachers' Work Room in your school to be? [a] | 29.7% | 48.6% | 21.6% |

*N = 37

[a]Source: the Questionnaire--see Appendix B--under "Teachers' Work Room."

Table 22. Description of Administrators' Responses to Items Under Element Six: Extent of Utilization, and Intra-Element Pattern*

| Uses of Ancillary Areas | EXTENT OF UTILIZATION FREQUENCY PROFILE | | | | | Wt. Total | PATTERN (Rank) |
|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | | |
| 1-As supplementary facilities for large groups | 27.9% | 16.3% | 32.6% | 18.6% | 4.7% | 156 | 2 |
| 2-As additional small group areas | 27.9 | 7.0 | 34.9 | 23.3 | 7.0 | 174 | 1 |
| 3-As a theatre, small auditorium, or assembly room | 25.6 | 20.9 | 41.9 | 9.3 | 2.3 | 142 | 3 |
| 4-As a choral, drama, or art room | 53.5 | 11.6 | 9.3 | 18.6 | 7.0 | 114 | 4 |
| 5-As an exhibition or display area | 44.2 | 34.9 | 18.6 | 2.3 | 0.0 | 79 | 7 |
| 6-As a lunch room | 60.5 | 11.6 | 0.0 | 20.9 | 7.0 | 102 | 5 |
| 7-As a playroom in inclement weather | 72.1 | 20.9 | 7.0 | 0.0 | 0.0 | 35 | 9 |
| 8-As a waiting room for school buses | 93.0 | 4.7 | 2.3 | 0.0 | 0.0 | 9 | 10 |
| 9-As a meeting room for Home & School, adult groups | 32.6 | 55.8 | 9.3 | 2.3 | 0.0 | 81 | 6 |
| 10-As a place for pupils' parties | 55.8 | 44.2 | 0.0 | 0.0 | 0.0 | 44 | 8 |
| OVERALL FREQUENCY PROFILE | | | | | | | |

*N = 43

provided testing services as well as group counselling for pupils in regard to normal developmental and maturation problems. The administrators responded negatively regarding the four other suggested services to be offered by the Pupil Guidance and Counselling Center (Table 24).

Finally, Table 25 compiles the seven overall utilization profiles and intra-element rankings from Tables 15, 16, 17, 18, 20, 22, and 23. The weighted totals are ranked to yield the inter-element pattern of Utilization of the sample of administrators. Small Group Instructional Area ranked first; the Instructional Materials Center, second; Individual Study Facilities, third; and Ancillary Areas seventh.

## SUMMARY OF CHAPTER 4

This chapter analysed the data in order to answer the first two questions under the major problem: (1) to what extent do the teachers and administrators surveyed utilized innovative elements of school design in the ways suggested? (2) what patterns of utilization of innovative elements of school design do teachers and administrators reflect? These two questions emphasize the descriptive nature of this study.

In this chapter the two samples were described in terms of their respective (1) extent of utilization profiles, (2) intra-element patterns of utilization, and (3) inter-element patterns of utilization. Both tables and textual explications were used in order to reveal the ways in which teachers and administrators make use of the seven

Table 23. Description of Administrators' Responses to Items Under Element Seven" Extent of Utilization, and Intra-Element Pattern*

| Uses of the Pupil Guidance and Counselling Center | EXTENT OF UTILIZATION FREQUENCY PROFILE | | | | | Wt. Total | PATTERN (Rank) |
|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | | |
| 1-Assists child to become aware of his potential and to work toward it | 20.0% | 40.0% | 40.0% | 0.0% | 0.0% | 120 | 2 |
| 2-Keeps records on individuals' special needs, abilities, achievement, etc. | 0.0 | 30.0 | 50.0 | 10.0 | 0.0 | 160 | 1 |
| OVERALL FREQUENCY PROFILE | 10.0 | 30.0 | 50.0 | 10.0 | 0.0 | 160 | |

*N = 24

Table 24. Description of Teachers' Responses to Items Under Element Seven: Services Provided by the Pupil Guidance and Counselling Center*

| ITEM | Percentage Distribution of Responses Yes | No |
|---|---|---|
| 1-The GCC provides services in diagnostic, intelligence, and achievement testing. | 80.0% | 20.0% |
| 2-The GCC attempts to assist staff to provide programs which contribute to pupils' self-directed learning. | 20.0 | 80.0 |
| 3-The GCC is successful in the above attempt. | 20.0 | 80.0 |
| 4-The GCC provides group counselling so that pupils are aware of normal developmental problems. | 80.0 | 20.0 |
| 5-The GCC provides a program for teachers, pupils, and the public promoting understanding of aims, policies. | 20.0 | 80.0 |
| 6-GCC conducts in-service to assist teachers' understanding of growth and development of normal, handicapped and exceptional children. | 0.0 | 100.0 |

N = 24

Table 25. Summary Description of the Sample of Administrators Derived from Administrators' Responses to Questionnaire Items 1 through 7*

| ELEMENT | (N) | OVERALL EXTENT OF UTILIZATION PROFILES | | | | | | INTER-ELEMENT PATTERN (Rank) | INTRA-ELEMENT PATTERNS (Rank) Use Number-- | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | C | D | E | Weighted Totals | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| ONE | 41 | 27.4% | 29.6% | 22.9% | 18.0% | 2.1% | 138 | 5 | 2 | 5 | 2 | 2 | 4 | 7 | 6 | | | |
| TWO | 40 | 18.1 | 9.4 | 15.9 | 41.3 | 15.3 | 226 | 1 | 2 | 6 | 7 | 3 | 3½ | 1 | 3½ | | | |
| THREE | 36 | 25.0 | 11.7 | 28.3 | 26.4 | 8.6 | 182 | 3 | 1 | 2 | 3½ | 3½ | 5 | 7 | 4 | 6 | | |
| FOUR | 47 | 14.9 | 16.0 | 30.1 | 29.4 | 9.6 | 203 | 2 | 2 | 1 | 3 | 4 | 5 | 6 | | | | |
| FIVE | 37 | 54.5 | 13.1 | 10.8 | 14.4 | 7.2 | 107 | 6 | 1 | 3 | 2 | 4 | | | | | | |
| SIX | 43 | 56.8 | 19.2 | 13.0 | 8.5 | 2.5 | 81 | 7 | 2 | 1 | 3 | 4 | 7 | 5 | 9 | 10 | 6 | 8 |
| SEVEN | 5 | 10.0 | 30.0 | 50.0 | 10.0 | 0.0 | 160 | 4 | 2 | 1 | | | | | | | | |

*Source: Tables 15, 16, 17, 18, 20, 22, and 23 of the present study.

innovative elements of school design in terms of the suggested uses.

Briefly, the respondents from the two samples used the facilities in most of the listed ways, and in many instances to great extent.

Finally, this chapter reviewed the definitions of the three description categories: extent profile, intra-element pattern, and inter-element pattern of utilization.

# Chapter 5

# THE COMPARATIVE UTILIZATION OF INNOVATIVE ELEMENTS OF DESIGN BY VARIOUS SUBGROUPS OF TEACHERS AND ADMINISTRATORS

## INTRODUCTION

Chapter 4 described the whole sample of teachers and the whole sample of administrators. The third subproblem of the major problem of the study was concerned with comparisons of the utilization as reported by subgroups within one or both of the samples: "Do relationships exist among the extents of utilization and among each of the two kinds of patterns of utilization which were indicated by various demographically and otherwise defined subgroups . . . ?"*

### Defining Subgroups of Respondents within the Two Samples

Many of the types of data from Part Two of the questionnaire were used as bases for defining the sets of subgroups: school system, school characteristics, job characteristics, educators' professional characteristics, and respondents' personal characteristics.

The number of groups involving administrators was more restricted than that of teachers because the entire sample contained only fifty-one administrators before subdivisions were begun.

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*Supra, page 3.

Methodology for Making Comparisons among Subgroups

A computer program was used to calculate the utilization profiles and patterns for each subgroup in the samples of respondents. These data for all the subgroups in a specified set were compiled in a single summary table, the format of which was employed in Tables 14 and 25 in Chapter 4 of this study

Since the inter-element pattern is derived both from the intra-element patterns of utilization and from the overall extent of utilization profiles, the first step in analysis was comparing the inter-element patterns of each set of subgroups. The strategy was to assume that notable differences would manifest themselves through statistically significant correlations between the inter-element ranking patterns. Differences in the intra-element patterns, and differences in the extent profiles of groups whose inter-element patterns were significantly correlated would be treated as incidental differences; in other words, the plan was to search for high correlations in the inter-element patterns, and only where such could not be found would the intra-element patterns and the extent of utilization profiles be scrutinized. This type of rationale is supported by Tannenbaum (1968:24ff).

A Kendall Coefficient of Concordance (W) was calculated for the inter-element rankings of the subgroups in each set of subgroups. The coefficient W represents the implied agreement of several judges who are ranking a given number of objects, individuals, or concepts. In cases where there are just two subgroups in a set, the W which is calculated cannot be tested directly for statistical significance.

However, the statistical significance of another measure, Spearman's Coefficient of Rank Correlation (rho), can be tested; $\rho = 2W$.

## FINDINGS

One summary table showing the inter-element rankings, intra-element patterns, and the overall extent of utilization profiles for each of the seven elements was constructed for each set of subgroups. A Kendall's W was calculated for each set of three inter-element rankings, and a Spearman's $\rho$ was calculated for each set of two inter-element rankings. The W's and $\rho$'s were tested for statistical significance ($p < 0.05$). Table 26 shows that in every case examined high correlations were found to exist among the inter-element rankings of the subgroups of respondents.

In view of this finding, and in view of the strategy outlined earlier in this chapter for comparing subgroups, it was deemed unnecessary to test intra-element rankings and overall extent of utilization profiles for relationships.

## SUMMARY OF CHAPTER 5

Chapter 5 explained how various subgroups from the two samples of respondents were delineated and then compared. The groups which were analysed were presented; the method and the strategy for statistical analysis were outlined; and, the findings of the analyses conducted under subproblem 3 of the study were stated: there were high correlations between inter-element patterns of the subgroups in every set of subgroups analysed.

Table 26. List of the Subgroups Studied, and Summary of the Comparisons of Inter-Element Rankings Made within each Set of Subgroups

| Set No. | Drawn From | Basis for Definition | Description of SUBGROUPS | Value of W or $\rho$** |
|---|---|---|---|---|
| 1. | T/A | ---------- | all teachers<br>all administrators<br>the two samples combined | .9604 |
| 2. | T/A | school system | public system teachers<br>separate system teachers | .8928 |
| 3. | T/A | school system | separate system teachers<br>separate system administrators | 1.0000 |
| 4. | T | school system | public school teachers<br>separate system teachers | .9646 |
| 5. | A | school system | public system administrators<br>separate system administrators | .8794 |
| 6. | T | school size | teachers on staffs of 11 or fewer<br>teachers on staffs of 12 - 18<br>teachers on staffs of 19 or more | .9682 |
| 7. | T | division taught | division I teachers (grades 1, 2)<br>division II teachers (grades 3, 4)<br>division III teachers (grades 5, 6) | .9365 |
| 8. | T | type of school | teachers in schools containing elements 1,2,3,4,5,6,7<br>teachers in schools with 1,2,3,4,5,6<br>teachers in schools with 1,2,3,4,6 | .9821 |
| 9. | T | university | teachers with 3 or fewer years<br>teachers with 4 or more years | .9464 |
| 10. | T | tch experience | teachers with 3 or fewer years<br>teachers with 4 or more years | .9821 |
| 11. | T | training for a specific level | elementary teachers<br>teachers of junior or senior high | 1.0000 |

*Key: T/A - teachers and administrators
A - administrators' sample, only
T - teachers' sample, only.

**Critical value of W for $p < 0.05 = 0.624$ (used with 3 subgroups);
Critical value of $\rho$ for $p < 0.05 = 0.714$ (used with 2 subgroups).

Table 26. (continued)

| Set No. | Drawn From | Basis for Definition | Description of SUBGROUPS | Value of W or $\rho$** |
|---|---|---|---|---|
| 12. | T | training for innovatively designed schools | teachers with formal training<br>teachers with informal training<br>teachers with neither | 1.0000 |
| 13. | T | experience in innovatively designed schools | teachers with 1 or 2 years<br>teachers with 3 or 4 years<br>teachers with 5 or more years | .7460 |
| 14. | T | when joined staff | teachers who joined in year that the school (or addition) was ready<br>teachers who joined subsequently | 1.0000 |
| 15. | T | how joined staff | teachers who requested to join or were invited to join<br>teachers placed without consultation | 1.0000 |
| 16. | T | sex | male teachers<br>female teachers | 1.0000 |
| 17. | T | age | teachers under 30 years<br>teachers 30 years of older | 1.0000 |
| 18. | A | age | administrators under 40 years<br>administrators 40 years or older | .7856 |
| 19. | T | attitude toward innovatively designed schools | teachers with favorable attitudes<br>teachers with neutral attitudes<br>teachers with unfavorable attitudes | .9319 |
| 20. | A | admin experience in innov schools | administrators with 3 or fewer years<br>administrators with 4 or more years | .9284 |
| 21. | A | when joined staff | those joining same year school opened<br>those joining before school opened<br>those joining subsequently | .8253 |
| 22. | A | position (present) | principals<br>vice-principals and others | .8928 |
| 23. | A | position (previous) | v.p.'s, teachers in same schools<br>administrators from other schools | .7232 |
| 24. | A | training for innovatively designed schools | administrators with formal training<br>administrators with informal training<br>administrators with neither | .8492 |

# Chapter 6

# SUMMARY OF FINDINGS, IMPLICATIONS, AND RECOMMENDATIONS FOR FURTHER RESEARCH

## SUMMARY OF FINDINGS

### Important Innovative Elements of School Design

Researching the literature yielded seven innovative elements of school design, and a list of the intended use for each as seen by the creators and proponents of the elements. A pilot study found that a panel of judges supported the seven selected elements as currently most important. The panel also supported the assumption that design innovations are initially conceived to accommodate intended uses.

### Summary Description of the Teacher Sample*

Small Group Instructional Areas were used for allowing pupils to practise new skills, to develop personal relationships among themselves and with teachers, to explore new concepts through discussion.

The Instructional Materials Center was used primarily as a source of print and non-print materials for both teachers and pupils.

Individual Study Facilities were used for pupils engaged in a variety of activities requiring reading, for arranging special activities which would help meet the special needs of individuals, and for pupils engaged in activities requiring them to write.

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*The design elements, and the uses of each are listed in rank order.

Large Group Instructional Areas were utilized mainly for introducing new units of study, enrichment activities, summarizing and generalizing, and providing motivating experiences.

Summary of the Description of the Sample of Administrators*

Small Group Instructional facilities were used for allowing pupils to practise new skills, explore new concepts, and develop personal relationships.

The Instructional Materials Center was a source of print and non-print materials for pupils and teaching administrators.

Individual Study Facilities were used by administrators in meeting the special needs of individuals. Also, pupils learned self-appraisal and self-discipline. Finally, pupils read for both leisure and study in these facilities.

The Pupil Guidance and Counselling Center ranked fifth; however, the number of responding administrators (N = 5) was so small that this could well have occurred by chance.

Administrators utilized the Large Group Instructional Areas for introducing new topics, motivating pupils, supplementing information and experiences from other sources, and for summarizing

Comparisons of Subgroups' Utilization of Design Elements

The two samples of respondents were divided into subgroups according to twenty-four different demographic, professional, situational, and personal criteria. Significant relationships among the utilization patterns of the subgroups were found in every set of respondents.

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*The elements, and the uses of each are listed in rank order.

# IMPLICATIONS

The major value of this study may be its usefulness in in-service and pre-service programs for teachers. A study of this type identifies those skills which need to be learned or improved by an individual or by a staff as a whole. By showing that non-occurring uses of facilities seem to be related to unachieved educational objectives, a study of this type could clearly identify the skills to be stressed in in-service programs. Secondly, universities concerned with preparing teachers for working in innovatively designed schools will want to deal with those skills, strategies, and mental dispositions relevant to innovative elements and the intended uses of them.

Placement of teachers and assignment of duties are becoming more crucial as teaching becomes more complex and specialized, and as the demands for efficient attainment of goals become stronger. Findings of studies of this type should allow more successful identification of the attitudes and skills to be focussed upon in teacher recruitment, in the writing of job descriptions, and in developing philosophies and policies for supervision of personnel.

An implication concerning the durability of the findings of this study is whether teachers' utilization of innovatively designed schools will change once the schools have been operating several years and are no longer generally regarded as "innovative." Related to this is the question of whether the patterns of teacher practices reflected by this study are actually leading to better achievement of goals, or whether they simply mean that the teachers are happier in innovatively

designed schools than they would be in traditionally designed schools. Or--are goal attainment and teacher satisfaction interdependent?

School boards engaged in planning can observe the situation in two large districts as they were revealed by this study. For example:

1. It was not found that all seven elements, or that particular combinations of six or fewer elements resulted in greater utilization than did certain other combinations. The implication is that additions to schools and construction of buildings in phases cannot be ruled out as undesirable from the findings of this study.

2. Teachers and administrators regardless of how they were subgrouped displayed strikingly similar patterns of utilization of the seven elements. A possible reason for this is that teachers adopt the practices of the other teachers and of the administrators in a particular school, system, or city.

3. Related to this is the possibility that channels of communication are open and used in the diffusion of innovative ideas and ideas about innovations. That is, not only can it be inferred that the channels between administrators and teachers are operating, but also that the channels to principals from the central office and through central office indeed exist and are being used. This seems to be a sound argument for cultivating these channels. (See Figure 1, page 29.)

Another reason that the study revealed notable similarities in the utilization patterns of a variety of subgroups could be simply that the teachers in innovatively designed schools have been self-selected on the bases of attitudes, knowledges, and skills.

Finally, there is the question of the relative utilization of the seven elements as measured by the questionnaire used in this study. It is possible that the nature of the physical facility and/or the nature of those activities which can occur in the facility are such that a particular element or a particular use will necessarily be chosen more often in the overall response patterns. The point is, however, that every subgroup as well as each of the two samples displayed in effect identical extents and patterns of utilization. Briefly stated, the implication is that although the study could not establish absolute measures of utilization, the relative measures seem to be valid.

## RECOMMENDATIONS

1. There are many possibilities for straightforward replication of the present study: in other urban centers, in rural areas, in junior or senior high schools.

2. It might be worthwhile to compare students' perceptions of utilization with those of educators in a variation of the present study. Care would be required in gathering students' perceptions because their jargon, orientation, and conception of educational aims are different from those of educational researchers.

3. "Other uses" were solicited by the questionnaire. Respondents supplied some which at present are not in the literature. There may be a considerable number of valuable additional uses which can be made of facilities in endeavoring to attain the goals of education. Lists of uses should be determined, published, and disseminated in the interest of making genuine contributions to the improvement of practice at the local level.

4. Studies of teacher assignment and misassignment, and of teacher satisfaction are important and have been conducted (Reinholt 1970, Rousseau 1970). Examining misassignment and teacher satisfaction in innovatively designed schools and in conventionally designed schools would be valuable projects.

5. Finally, no amount of speculation will determine accurately why utilization seemed independent of age, sex, education, experience, and a variety of environmental variables. Many kinds of administrative changes (staffing, supervision, planning, for example) and changes in teaching practice are so expensive that it is imperative in most instances to determine why utilization may be independent of certain variables. That is, the findings of the present study are merely a beginning point for further research.

## CONCLUSIONS

In general, studies concerned with allocation of scarce resources, such as buildings and professional personnel, are becoming more and more important as other segments of society make heavier demands upon public funds. This study was concerned with efficiency not only in terms of finances, but also in terms of attaining educational goals. This study and others--many yet to be done--deal with the interrelationships among resources, the objectives of education, and the evaluation of the success and efficiency with which the objectives have been achieved through the deployment of resources. Hopefully contributions to educational planning and finance, and improvement of educational practice are the results of such studies.

## REFERENCES CITED


Anderson, R. H. 1966. Teaching in a world of change, New York: Harcourt, Brace, and World, Incorporated.

Barnes, F. 1960. "We are all researchers," Educational research: Selected readings, Columbus, Ohio: Charles E. Merrill Publishing Company.

Beynon, J. (ed.) 1963. Designs for education, New York: The Educational Facilities Laboratories, Inc.

Boles, H. 1965. Step by step to better school facilities, New York: H. Golt and Company.

Boicourt, G. 1953. Before your build: Three major steps to be taken in a school building program, Des Moines: State Department of Public Education, Iowa.

Bruner, J. 1966. Toward a theory of instruction, Cambridge: Harvard University Press.

CEFP 1968. What went wrong? Maintenance and operation errors to avoid in educational facilities planning, Columbus, Ohio: Council of Educational Facilities Planners.

Clinchy, E. 1960. Rich Township High School, Olympus Fields Campus, Rich Township, Illinois, New York: Published by the Educational Facilities Laboratories, Incorporated.

Clinchy, E. (ed.) 1961. New schools for new education, New York: Educational Facilities Laboratories, Incorporated.

Clinchy. E. (ed.) 1961a. Profiles of significant schools: schools for team teaching, New York: Educational Facilities Laboratories, Incorporated.

Corey, S. 1953. "A perspective on educational research," Educational research: Selected readings, Gephart and Ingle (eds.), Columbus, Ohio: Charles E. Merril Publishing Company.

De Bernardis, A., and others. 1961. Planning schools for new media, Portland, Oregon: Portland State College and the U.S. Office of Education, The Department of Health, Education, and Welfare.

Educational Facilities Laboratory, Inc. 1967. "New life for old schools" the Pittsburg design study of the Wightman Elementary School, Chicago: Published by the Research Council of the Great Cities Program for School Improvement.

Engleman, F. 1960. Planning American school buildings, Washington, D.C.: Published by the American Association of School Administrators.

Ferguson, G. A. 1966. Statistical analysis in psychology and education, New York: McGraw-Hill Book Company.

Goodlad, J., and Anderson, R. 1963. The non-graded elementary school, New York: Harcourt, Brace, and World, Inc., (revised).

Gross, R., and Murphy, J. 1969. Educational change and architectural consequences, New York: Educational Facilities Laboratories, Inc.

Harap, H. 1959. "Morale," The Nation's Schools, June.

Herrick, J. 1965. From school program to school plant, Hew York: H. Holt and Company.

I/D/E/A 1969. Innovations in the elementary school: an I/D/E/A occasional paper,Dayton, Ohio: Institute for Development of Educational Activities, Inc.

McGuffey, C., and others. 1964. NCSC guide for planning school plants, East Lansing: Published by the National Council on Schoolhouse Construction.

McQuade, W. 1958. School house, New York: Simon and Shuster.

Parker, F. 1964. Guide for planning educational facilities, Columbus, Ohio: The Council of Educational Facilities Planners.

Reinhold, F. W. 1970. "A study of the relationship between the use of instructional practices and selected teacher and school variables," Unpublished Master's thesis, The University of Alberta, Edmonton.

Richey, H. (ed.) 1969. Education Evaluation: new roles, new means, the sixty-eighth yearbook of the national society for the study of education, Chicago: The University of Chicago Press.

Rousseau, D. 1970. "Assignment and Misassignment of junior and senior high school teachers in Alberta," unpublished Master's thesis, The University of Alberta, Edmonton.

SEF 1968. Educational specification and user requirements for elementary (K - 6) schools, E-1, Toronto: Ryerson Press for the Study of Educational Facilities (SEF) of the Metropolitan Toronto School Board.

Siegel, S. 1956. Nonparametric statistics, New York: McGraw-Hill Co.

Stewart, G. K. 1969. Guide for planning educational facilities, Columbus, Ohio: Council of Educational Facilities Planners

Tannenbaum, A. S. 1968. Control in organizations, New York: McGraw-Hill Co.

Trump, J. L. 1961. Images of the future, Washington: The National Association of Secondary School Principals, (National Educational Association).

Trump, J. L., and Baynham, D. 1967. Guide to better schools, focus on change, Chicago: Rand, McNalley.

Trump, J. L., and Miller, D. F. 1968. Secondary school curriculum improvement, Boston: Allyn and Bacon, Incorporated.

Tyler, R. 1969. in the introduction to Education evaluation, the sixty-eighth yearbook of the National Society for the Study of education, Chicago: The University of Chicago Press.

Weinstock, R. (ed.) 1966. The school library, New York: Educational Facilities Laboratories, Incorporated.

Wright, V. G. 1956. "How instructional changes affect the school library," Planning schools for effective teaching, (mimeographed,) The Saskatchewan Teachers Federation

## ADDITIONAL REFERENCES

American Association of School Administrators. 1949. American school buildings: twenty-seventh yearbook of the NEA, Washington, D. C.: National Educational Association.

Boles, H. W. 1965. Step-by-step to better school facilities, New York: Holt, Rinehart, and Winston, Incorporated.

Educational Facilities Laboratories. 1950-1961. (a series:) Profiles of significant schools, a continuing series: "Heathcote Elementary School, Scarsdale, New York," "Montrose Elementary School, Laredo, Texas," "Public School No. 9, Borough of Queens, New York," and others, New York: published by the Educational Facilities Laboratories, Inc.

Educational Facilities Laboratories. 1960. Design for ETV, New York: published by the EFL, Incorporated.

Educational Facilities Laboratories. 1960. New schools for new education, New York: EFL, Incorporated.

Educational Facilities Laboratories. 1960. The Cost of Schools, New York: published by the EFL, Incorporated.

Educational Facilities Laboratories. 1966. Divisible Auditoriums, New York: published by the EFL, Incorporated.

Englehardt, N. L., and Englehardt, N. L. Jr. 1965. School planning and building handbook, New York: F. W. Dodge Corporation.

McClurckin, W. D. 1964. School building planning, New York: The MacMillan Publishing Company.

MacConnell, J. P. 1957. Planning for school buildings, Englewood Cliffs, New Jersey: Prentice-Hall, Incorporated.

McLeary, R. D. 1952. Guide for evaluating school buildings, Cambridge, Mass.: New England School Development Council.

Schneider, R. C. 1960. Space for teachers, Stanford, California: School of Education, Stanford University.

# A P P E N D I X  A

## Panel of Experts: Questionnaire

## And Summary of Findings

# Q U E S T I O N N A I R E

VALIDATION BY MEMBERS OF A PANEL OF EXPERTS OF

A TENTATIVE LIST OF THE MOST SIGNIFICANT

INNOVATIVE ELEMENTS OF SCHOOL DESIGN

AND INTENDED USES FOR EACH

***

Neil Clarke

DEPARTMENT OF EDUCATIONAL ADMINISTRATION

THE UNIVERSITY OF ALBERTA

February, 1970

# QUESTIONNAIRE

## INTRODUCTION

This questionnaire is concerned with a tentative list of the most significant elements of innovative school design, and the intended uses of each for achieving the aims of education in elementary schools.

Definition of "Innovative Elements of School Design." Essentially, these are physical facilities. However, attention is focused on educational specifications, rather than on architectural or engineering specifications. Although there are various physical shapes for a particular facility, all have many essential features in common which provide for the same uses to be made of the facility, Each set of common, essential features represents one element of design. (The questionnaire is concerned with a list of seven such elements.)

For example, the element, "Large Group Instructional Area" is embodied in any of several physical facilities such as the Open Area, the Divisible Auditorium, the Lecture Theatre, Adjoining Classrooms, etc.

Note, however, that certain physical facilities denoted in the usual manner are not on the list because they really are combinations of more than one discete element. For example, an Open Area usually contains these elements: the Large Group Instructional Area, the Small Group Instructional Area, and Facilities for Individual Study.

## INSTRUCTIONS

You are requested to base your responses to questionnaire items on your professional knowledge, opinions, and experience.

Please bear in mind that the context of the questionnaire and of research which will follow is elementary education--grades 1 - 6. Also, design elements exclude technological devices such as the video tape recorder.

Although you are not required to do so, you may wish to add comments or qualifications to your responses. Spaces have been provided for this--the reverse sides of pages may be used as well. Since you are one of a panel of only six members, the researcher will be able to study any comments very carefully.

There are two sections to the questionnaire: Part I and Part II. More specific instructions are given at the beginning of each section--and in individual items.

Part I begins of the next page . . . .

Part I.

INSTRUCTIONS. Having read the instructions on the previous page, examine the list of INNOVATIVE ELEMENTS OF SCHOOL DESIGN which is given below. Then respond to Item 1.

- o Large Group Instructional Area
- o Small Group Instructional Area
- o Facilities for Individual Study
- o Instructional Materials Center
- o Pupil Guidance and Counselling Center
- o Ancillary Area (General Purpose Area)
- o Teachers; Work Room

ITEM 1 Do you agree that the list--exactly as given above--is a list of the most important INNOVATIVE ELEMENTS OF SCHOOL DESIGN in terms of potential contribution to the realization of today's aims of elementary education?

Circle one: YES NO

ITEM 2 (If you answered YES to ITEM 1, go directly to ITEM 3.)
If you answered NO to ITEM 1, examine the list which is given again below and write in the blank spaces at the bottom those elements which you think should be included in such a list because they are as important as, or more important than listed item(s) in terms of the aims of elementary education as you see them.

- o Large Group Instructional Area ....
- o Small Group Instructional Area ....
- o Facilities for Individual Study ....
- o Instructional Materials Center ....
- o Pupil Guidance and Councelling Center ....
- o Ancillary Area (General Purpose Area) ....
- o Teachers' Work Room ....
- o _____
  _____ ....
- o _____
  _____ ....
- o _____
  _____ ....

ITEM 3 Immediately above is a list of 7 (or more if you added any) elements which you agree are the most important elements of school design.
NOW--RANK THE ELEMENTS ACCORDING TO THEIR RELATIVE POTENTIAL VALUE FOR ACHIEVING THE BROAD AIMS OF CANADIAN and/or AMERICAN ELEMENTARY EDUCATION at the present time--as you conceive of thse aims and as you perceive uses for each design element.

If you have added elements to the list, include them in the ranking. The ranking numbers, 1, 2, 3, ... should be placed in the dotted spaces provided to the right of the list. The number 1 should be used to indicate the most important element, and so on.

Part II.

INSTRUCTIONS. Each of the 7 items in Part II is concerned with one innovative element of school design. There are several subsections under each item. Each subsection is a statement of on of the INTENDED USES OF THE DESIGN ELEMENT. All the intended USES were abstracted from the literature--as were the innovative element, themselves.

If, in your opinion, a listed USE is indeed an important use for the design element in question, write the letter A in the space provided to the right of the statement. If you disagree, put a letter D in the space.

---

Item 1. ELEMENT: LARGE GROUP INSTRUCTIONAL AREA

USE A. INTRODUCTION OF A UNIT OF STUDY (new concepts, terms; indicating the general area of study; directing and coordinating the types of work to be done in smaller groups or individually.) (A or D)....

USE B. GIVING INFORMATION NOT READILY ACCESSIBLE BY MEANS OTHER THAN A TEACHER OF SPECIAL SPEAKER ....

USE C. MOTIVATION ....

USE D. ENRICHMENT, SUPPLEMENTATION ....

USE E. GENERALIZATION (summary, review, synthesis) ....

USE F. WRITING EXAMINATIONS, OR STANDARDIZED TESTS ....

USE G. ASSEMBLIES (opening exercises, singing, patriotic exercises, presenting awards, etc.) ....

USE H. DEMONSTRATIONS (of physical skills such as in Physical Education, or in the fine or practical arts.)....

USE I. SPECIAL PRESENTATIONS (by teachers or outside speakers particularly competent in their fields; audio-visual teaching, story-telling, dramatization) ....

COMMENTS (if any):

Please turn to Item 2 on the next page.

Part II. (Continued)

Item 2. ELEMENT: SMALL GROUP INSTRUCTIONAL AREA

USE A. DISCUSSION (clarify new terms and concepts; explore ideas raised and consider material presented in the large group.) ....

USE B. GROUP LEADERSHIP (each student has equal opportunity; the teacher is just one participant or an observer) ....

USE C. EXAMINATION OF BELIEFS (agreement and disagreement; opportunities for individuals to expound and try to persuade.) ....

USE D. EDUCATION FOR DEMOCRATIC CITIZENSHIP (discussion of controversial matters; learning to communicate and listen effectively; learning tolerance.) ....

USE E. DEVELOPING PERSONAL RELATIONSHIPS (student-student; student-teacher.) ....

USE F. PRACTICE BASIC SKILLS (e.g., in homogeneous groups) ....

COMMENTS (if any):

Item 3. ELEMENT: FACILITIES FOR INDIVIDUAL STUDY

USE A. MEETING INDIVIDUAL NEEDS (in terms of aptitude, creativity, intelligence, remedial needs,) ....

USE B. STUDENTS LEARN SELF-APPRAISAL, SELF-DISCIPLINE, SELF-INITIATIVE FOR STUDYING ....

USE C. READING (leisure, study, enrichment, etc.) ....

USE D. THINKING, REFLECTING, PLANNING ....

USE E. VIEWING AND LISTENING TO AUDIO-VISUAL MATERIALS ....

USE F. USING PROGRAMMED LEARNING MATERIALS AND LEARNING LABORATORIES ....

USE G. PRACTISING SKILLS (physical, computational, etc.) ....

USE H. MEMORIZATION; STUDY OF SPECIFIED CONTENT ....

USE I. WRITING (specified assignments, individual projects, creative writing) ....

USE J. MAKING (practical or fine arts, etc.) ....

USE K. EXPERIMENTING (science, mathematics, music, etc.) ....

COMMENTS (if any):

Please turn to Item 4 on next page

Part II. (Continued)

Item 4. ELEMENT: INSTRUCTIONAL MATERIALS CENTER

[Note: in order to keep elements mutually exclusive, the element, Instructional Materials Center, excludes incorporated or associated facilities for large groups, small groups, or individuals. These were considered separately as other discrete elements.]

USE A. PROVIDE A VARIETY OF PRINT MATERIALS FOR TEACHERS AND STUDENTS (reference books, non-fiction, fiction, pamphlets, periodicals, programmed learning texts, maps, charts, professional journals, and professional references) ....

USE B. PROVIDE A VARIETY OF NON-PRINT MATERIALS (slides, film strips, records, tapes, transparencies, models, globes, realia, video-tapes; projectors, screens, tape-recorders, etc. ....

USE C. PROVIDE SYSTEMS WHICH ENCOURAGE AND FACILITATE READY ACCESS TO INFORMATION AND MATERIALS IN THE I M C ....

USE D. PREPARATION OF MATERIALS NOT PURCHASABLE (e.g., materials adapted for a local situation) ....

USE E. PROVIDE FOR TEACHERS AND STUDENTS LISTS OF INFORMATION AND MATERIALS WHICH ARE AVAILABLE AND WHICH ARE APPLICABLE TO SPECIFIED UNITS OF STUDY ....

COMMENTS (if any):

Item 5. ELEMENT: PUPIL GUIDANCE AND COUNSELLING CENTER

[Note: Location is near administrative offices, I M C, and the entrance to the school; however, out of the main flow of traffic and away from areas of high noise level. Facilities: rooms for individual or group counselling, for using play media in testing; there is a separate waiting and reception area; there is storage for records and materials.]

USE A. PROVIDE COORDINATED PROFESSIONAL ASSISTANCE TO INDIVIDUALS IN MAKING WISE CHOICES, IN UTILIZATION OF POTENTIAL, IN DEVELOPING SELF-DIRECTIVENESS ....

USE B. ASSIST THE SCHOOL IN PROVIDING SELF-DIRECTED AND SELF-PACED LEARNING (The early schools years are the time during which a basic style of life and self-concept begin developing in unique patterns.) ....

USE C. PROVIDE GROUP COUNSELLING FOR SCHOOL ORIENTATION, FOR ASSISTANCE IN NORMAL DEVELOPMENTAL PROBLEMS ....

USE D. PROVIDE TESTING SERVICES (diagnostic, aptitude, intelligence, etc.) ....

This item continued on the next page . . .

USE E. PROMOTE INCREASED UNDERSTANDING OF THE SCHOOL'S AIMS AND POLICIES (for teachers, visitors, community, as well as for pupils) (A or D) ....

USE F. MAINTAIN RECORDS ....

USE G. CONSULT WITH PUPILS, TEACHERS, PARENTS, AND PROFESSIONAL CONSULTANTS ....

USE H. HELP TEACHERS INCREASE THEIR UNDERSTANDING OF DEVELOPMENTAL NEEDS AND GROWTH PATTERNS OF CHILDREN (including handicapped, normal and exceptional children ....

COMMENTS (if any):

Item 6. ELEMENT: ANCILLARY AREA

[Note: Ancillary Areas are known also as "Commons," "General Purpose Rooms," or "Multi-purpose Areas." The nature of this facility--as suggested by its names--indicates that it is unlikely that all possible uses of it will be listed; therefore, the statements of uses are quite general.]

USE A. AS ALTERNATE, SUPPLEMENTARY, OR ADDITIONAL FACILITIES FOR LARGE GROUP INSTRUCTION, SMALL GROUP INSTRUCTION ....

USE B. AS A THEATRE, SMALL AUDITORIUM, ASSEMBLY ROOM ....

USE C. AS A CHORAL, DRAMA, ORCHESTRA, OR BAND AREA ....

USE D. FOR EXHIBITIONS, DISPLAYS ....

USE E. AS A STUDY HALL ....

USE F. AS A LUNCH ROOM ....

USE G. AS A PLAYROOM (supplementary to gymnasia, or instead of the playground in poor weather) ....

USE H. AS A WAITING ROOM FOR SCHOOL BUSES ....

USE I. FOR ADULT MEETINGS, ADULT EDUCATION, HOME & SCHOOL MEETINGS, TEACHER MEETINGS ....

USE J. FOR SOCIAL FUNCTION (formal-informal; day-evening; students-adults; curriculular-extracurricular-community) ....

USE K. [If suitably located] AS AN EXTENSION OF THE INSTRUCTIONAL MATERIALS CENTER, THE OPEN AREA OR THE AUDITORIUM ....

COMMENTS (if any):

Please turn to Item 7 on the next page

Part II (concluded)

Item 7. ELEMENT: TEACHERS' WORK ROOM

USE A. PREPARATION OF INSTRUCTIONAL MATERIALS FOR TEACHERS (e.g., multiple copies of tests, assignments, selected content, directions, summaries; transparencies, models, tapes, demonstrations; etc.) ....

USE B. INDIVIDUAL RESEARCH, READING, PLANNING ....

USE C. COOPERATIVE STUDY, RESEARCH, PLANNING, EVALUATION BY SEVERAL TEACHERS--PARTICULARLY TEACHING TEAMS ....

USE D. TO FACILITATE SEPARATION FROM LOUNGE AREAS AND AREAS IN WHICH CONSULTATION WITH PUPILS, PARENTS, AND VISITORS OCCURS ....

COMMENTS (if any):

---

--End of Questionnaire--

Please Seal the Questionnaire
Into The Envelope Provided
And Post It As Soon As is Convenient

Thank you very much indeed for your time and cooperation. As a token of my appreciation, I should be pleased to send you one of the following; please check one--(I'm still "questionnaire-oriented").

A. a copy of the completed thesis

B. a copy of the thesis abstract and research findings

Neil W. J. Clarke
Graduate Student
Department of Educational Administration
The University of Alberta
Edmonton, Alberta
Canada

Table 27. Ranking of the Innovative Elements of School Design by the Six Expert Judges, and by Teachers and Administrators in the Samples*

| Innovative Elements | Judge 1 | 2 | 3 | 4 | 5 | 6 | $R_j$** | Rankings§ Judge | Teach | Admin |
|---|---|---|---|---|---|---|---|---|---|---|
| Large Group Instructional Area | 4 | 2 | 1 | 1 | 4 | 4 | 16 | 2 | 4 | 5 |
| Small Group Instructional Area | 2 | 3 | 3 | 3 | 5 | 3 | 19 | 3 | 1 | 1 |
| Individual Study Facilities | 3 | 1 | 4 | 4 | 6 | 2 | 20 | 4 | 3 | 3 |
| Instructional Materials Center | 1 | 4 | 2 | 2 | 1 | 1 | 11 | 1 | 2 | 2 |
| Teachers' Work Room | 6 | 8 | 7 | 7 | 7 | 5 | 40 | 7 | 5 | 6 |
| Ancillary Areas | 5 | 7 | 5 | 6 | 8 | 7 | 38 | 6 | 7 | 7 |
| Pupil Guidance and Counselling Center | 7 | 6 | 6 | 5 | 3 | 6 | 33 | 5 | 6 | 4 |

*One judge did not return a questionnaire, thus only six judges' ranks are given.

**Rj's are row totals used in calculating Kendall's W (Supra, page 36). W was found to be 0.79 which is significant at the 0.001 level of confidence.

§Judges' rankings are derived from the left half of the table; teachers' and administrators' rankings are from Table 14, page 51, and Table 25, page 64, respectively. The Concordance among these three rankings is W = 0.841 which is significant at the 0.01 level.

ATIONAL FACILITIES LABORATORIES, INC. 477 MADISON AVENUE, NEW YORK, N. Y. 10022 PLAZA 1-621

February 24, 1970

Mr. Neil W. J. Clarke
Faculty of Education
Department of Educational Administration
The University of Alberta
Edmonton 7, Canada

Dear Mr. Clarke:

The pasting of 30¢ in actual cash on the envelope in which the response to your questionnaire is to be returned is grossly unfair. For any graduate student to put up real cash to entice a reply increases the sense of guilt of everyone who has once been a graduate student. Remembering my own days as a graduate student, I recall the shortage of money - indeed, being a graduate student was in effect deemed to be the last vestige of slave labor. Therefore, enclosed please find the coins you so courageously stuck to the envelope.

I wish I could respond constructively to your questionnaire. The trouble is that EFL's principal thrust is to help design schools whose interior configuration is not determined by today's state of the art. A schoolhouse built today will be only at half life in the year 2000. If and when the school is someday abandoned as obsolescent, it will be because education has changed in the meantime and the school so precisely designed in the primitive days of 1970 can no longer accommodate itself to whatever form of education our successors most surely will develop.

Therefore, I have no idea of the size of spaces devoted to large groups or small groups or individual study, to pupil guidance, or indeed a counseling center. I repudiate the whole concept that we should chop up space according to what we think today's education is. The notion that a school should be generalized space made special by the kind of equipment introduced will be repudiated by architects who like to draw boxes and educators who believe that they are at the end of the line and not simply a link in the stream of history. I'm sure your thesis will produce better schools than we are now getting,

but that is faint praise. But that is praise nevertheless and I hope your project will help everyone to design schools which will not be irrelevant and indeed counter-productive by, say, 1980.

As I see it - and I could be wrong - schools must increasingly be built for people rather than just children and they should consist for the most part in two kinds of spaces: 1) people spaces - where people deal with people; and 2) "things" spaces - where the children and the teachers work with "things," and most of the "things" coming into the school over its 50-year life have not yet been invented. At this moment in time the schoolhouse should be mostly a great air conditioned field - an acre of June - in which the children, the teachers, and the curriculum cut their own pathways according to what life is like in the 1970's and the 1980's and the 1990's. Believing this, I don't know how to answer the questions on your questionnaire, but I would be most interested in your findings.

# A P P E N D I X  B

## THE QUESTIONNAIRE

A combined form of the TEACHERS' FORM and the ADMINISTRATORS' FORM of the data collection instrument used in this study.

TO THE PRINCIPAL _____

_____ SCHOOL

This bundle contains _____ green booklets -- ADMINISTRATORS' FORM

and _____ pink booklets -- TEACHERS' FORM of the

QUESTIONNAIRE

Patterns of Utilization of
Innovatively Designed
School Facilities

DISTRIBUTE one pink questionnaire to each

1) full-time teacher
2) part-time teacher
3) teacher-librarian

DISTRIBUTE one green questionnaire to

1) the principal
2) each vice-principal
3) each counsellor and coordinator

The QUESTIONNAIRE can be self-administered. Each booklet contains all necessary information and instructions.

Collect the completed questionnaires and simply leave them in a pile in your office. I shall visit your school to pick up the completed questionnaires on approximately May 1, unless other arrangements have been made.

If the questionnaires are completed well in advance of May 1 and if you would like to have them picked up immediately, please phone me (or leave a message) at 432-4914 or 434-8966.

THANK YOU.

Neil W. J. Clarke
Graduate Student
(Educational Administration)
University of Alberta
Edmonton

# QUESTIONNAIRE

## Patterns of Utilization of Innovatively Designed School Facilities

## ADMINISTRATORS' FORM

### General Instructions

1. Read all instructions carefully.

2. Answer ALL questions in both parts I and II accurately and frankly. The names of individuals and the name of your school will be kept in strict confidence.

3. Work through the instrument on your own and write responses to the items directly in the booklet using pencil or pen.

4. When you are finished hand the questionnaire to the person administering it -- or to whoever handed it to you.

5. Thank you. Please begin . . . .

# QUESTIONNAIRE

## Patterns of Utilization of Innovatively Designed School Facilities

(Administrators' Form)

## INTRODUCTION

Incorporated into the design of your school is one or more of the following innovations:

- Large Group Instructional Facilities
- Small Group Instructional Facilities
- Facilities for Individual Study
- An Instructional Materials Center
- A Pupil Guidance and Counselling Center
- Ancillary Areas (General Purpose Rooms)
- Teachers' Work Room

The purpose of this questionnaire is to find out how these facilities are being used by *you* in *your* teaching.

This form of the questionnaire is similar to the Teachers' Form. If you have 150 minutes or more per week of *teaching* duties in addition to your administrative duties, please complete PART ONE of the questionnaire from the viewpoint of your teaching role. When you are finished, complete PART TWO as well.

If you teach *less* than 150 minutes per week, complete only PART TWO of the questionnaire.

# QUESTIONNAIRE

## Patterns of Utilization of Innovatively Designed School Facilities

## TEACHERS' FORM

### General Instructions

1. Read all instructions carefully.

2. Answer ALL questions in both parts I and II accurately and frankly. The names of individuals and the name of your school will be kept in strict confidence.

3. Work through the instrument on your own and write responses to the items directly in the booklet using pencil or pen.

4. When you are finished hand the questionnaire to the person administering it -- or to whoever handed it to you.

5. Thank you. Please begin . . . .

# QUESTIONNAIRE

## Patterns of Utilization of Innovatively Designed School Facilities

(Teachers' Form)

## INTRODUCTION

Incorporated into the design of your school is one or more of the following innovations:

- Large Group Instructional Facilities
- Small Group Instructional Facilities
- Facilities for Individual Study
- An Instructional Materials Center
- A Pupil Guidance and Counselling Center
- Ancillary Areas (General Purpose Rooms)
- Teachers' Work Room

The purpose of this questionnaire is to find out how these facilities are being used by *you* in *your* teaching.

The findings derived from this questionnaire will answer many questions about modern schools containing ELEMENTS OF INNOVATIVE DESIGN.

Many new ways of using open areas, instructional materials centers, individual study facilities, and so on, will be found and made available to teachers interested in trying better methods and new activities with elementary pupils.

Some ideas concerning which types, and which combinations of facilities are most useful for teachers will be uncovered. Such ideas should prove valuable for both the planners and users of schools.

The EDMONTON SCHOOL BOARDS have endorsed this study and they expect the findings to be useful for evaluating their building programs and for learning what changes *teachers* would advocate.

## PART ONE

DATA PROC ONLY

### Instructions

Most of the questionnaire items contain a statement of a teaching activity which could be carried on in a particular facility in your school in order to help achieve the objectives of elementary education.

INDICATE HOW OFTEN YOU MAKE USE OF THE FACILITY IN EACH OF THE SUGGESTED WAYS BY CIRCLING ONE OF THE LETTERS FOLLOWING EACH STATEMENT.

The choices . . .

| A | B | C | D | E |
|---|---|---|---|---|
| N | a | a | a | a |
| E | few | few | few | few |
| V | times | times | times | times |
| E | per | per | per | per |
| R | year | month | week | day |

The remainder of the items are self-explanatory.

*Note:* You will undoubtedly discover that a facility cannot help but be used more frequently in some ways than others; this has already been taken into account.

*Remember* -- it is important that you indicate how you *yourself* actually use the various school facilities.

If you use certain facilities in ways not listed, please write these in the spaces provided; circle a letter A, B, C, or D for these additional uses, also.

[NUMBERS OR SYMBOLS TO THE RIGHT OF THE GUIDE LINE ARE FOR COMPUTER PROCESSING OF DATA. PLEASE DO NOT WRITE ON THE RIGHT HAND MARGINS OF PAGES]

Please turn the page and begin .

QUESTIONNAIRE: PART ONE

DATA PROC ONLY

R CC

## FACILITIES FOR LARGE GROUP INSTRUCTION

The Large Group Instructional Area takes many shapes -- some schools have an "open area", others have lecture theatres, classrooms with movable walls, and so on. *However*, the educational activities which go on in the facility are more important than the details of the physical shape.

With reference *only* to those educational activities involving two or more classes of pupils being combined for instruction, indicate the WAYS and HOW OFTEN you actually use Large Group Instructional Facilities.

After each statement in ITEM A below circle ONE of the letters in the rectangle:

| A | B | C | D | E |
|---|---|---|---|---|
| N | a | a | a | a |
| E | few | few | few | few |
| V | times | times | times | times |
| E | per | per | per | per |
| R | year | month | week | day |

ITEM A. YOU USE LARGE GROUP INSTRUCTIONAL FACILITIES FOR --

(1) introducing a unit of study -- new concepts, new content and new skills — A B C D E — 2

(2) giving information not readily accessible by means other than a specialist teacher or outside speaker — A B C D E — 3

(3) motivating — A B C D E — 4

(4) enriching; supplementing — A B C D E — 5

(5) generalizing -- summarizing, reviewing — A B C D E — 6

CONTIN.

--Continued on NEXT page--

FACILITIES FOR LARGE GROUP INSTRUCTION (continued)

DATA PROC ONLY

R CC

| A | B | C | D | E |
|---|---|---|---|---|
| NEVER | a few times per year | a few times per month | a few times per week | a few times per day |

YOU USE LARGE GROUP INSTRUCTIONAL FACILITIES FOR --

(6) administering examinations and standardized tests — A B C D E — 7

(7) demonstrating to pupils physical skills or certain procedures such as computational procedures — A B C D E — 8

(8) some OTHER purpose not mentioned above: please specify _____ — A B C D E — 9

ITEM B.

*Estimate* the number of hours which a typical pupil of yours spends -- on the average -- in the Large Group Instructional Facilities in the above activities when two or more classes are combined for instruction.

[ ] Number of hours per week — 10,11

[ ] 75
[ ] 76
[ ] 77
[ ] 78
[ ] 79
[ ] 80

--Respond to the items on EVERY page--

QUESTIONNAIRE: PART ONE

DATA PROC ONLY

R CC

## FACILITIES FOR SMALL GROUP INSTRUCTION

There is no single description of the physical shape of a facility in which Small Group Instruction may be carried on. However, the familiar traditional classroom cannot ordinarily be thought of as Small Group Instructional Facilities -- *unless* there were widespread clusters of tables and chairs, and unless the classroom was not being used for conducting traditional types of classes.

More often this facility for small groups is in an open area which has movable screens or chalkboards, or simply lots of space between adjacent groups. Each group should not exceed fifteen pupils.

After each statement in ITEM A, below, circle ONE of the letters in the rectangle:

| A<br>N<br>E<br>V<br>E<br>R | B<br>a<br>few<br>times<br>per<br>year | C<br>a<br>few<br>times<br>per<br>month | D<br>a<br>few<br>times<br>per<br>week | E<br>a<br>few<br>times<br>per<br>day |
|---|---|---|---|---|

ITEM A. YOU USE SMALL GROUP INSTRUCTIONAL FACILITIES FOR --

(1) discussing, clarifying new terms and concepts; exploring material presented in large groups — A B C D E — 2

(2) providing pupils with equal opportunities for group leadership -- the teacher is just one participant, or an observer — A B C D E — 3

(3) providing pupils with opportunities to examine and expound their beliefs and opinions — A B C D E — 4

(4) educating pupils in democratic citizenship -- discussing controversial matters, learning to communicate and listen effectively; learning tolerance — A B C D E — 5

CONTIN.

--Continued on NEXT page--

FACILITIES FOR SMALL GROUP INSTRUCTION (continued)

DATA PROC ONLY

R CC

| A | B | C | D | E |
|---|---|---|---|---|
| NEVER | a few times per year | a few times per month | a few times per week | a few times per day |

YOU USE SMALL GROUP INSTRUCTIONAL FACILITIES FOR --

(5) allowing pupils to develop personal relationships: pupil-pupil; teacher-pupil — A B C D E — 6

(6) pupils to practise their basic skills (e.g., in homogeneous groups; remedial drill, etc.) — A B C D E — 7

(7) indirectly evaluating pupils, diagnosing their problems, deciding the most suitable individual help or individual study projects — A B C D E — 8

(8) some OTHER purpose not mentioned above: please specify _____ _____ — A B C D E — 9

ITEM B.

*Estimate* the number of hours which a typical pupil of your spends -- on the average -- in the SMALL GROUP INSTRUCTIONAL FACILITIES.

[ ] Number of hours per week — 10,11

[2] 75
[ ] 76
[ ] 77
[ ] 78
[ ] 79
[ ] 80

--Respond to the items on EVERY page--

QUESTIONNAIRE: PART ONE

DATA PROC ONLY

R CC

## INDIVIDUAL STUDY FACILITIES

The physical facilities for Individual Study vary widely: carrels, library tables, learning lab stations, small conference rooms -- any comfortable spot which provides a degree of isolation and privacy, and which is accessible and conducive to studying.

Occasionally, two or three individuals with similar skills, interests and aptitudes will work together on a single project. Note that the working of math questions after a traditional lesson in a normal classroom (for example) is not defined as individual study.

After each statement in ITEM A, below, circle ONE of the letters in the rectangle:

| A | B | C | D | E |
|---|---|---|---|---|
| NEVER | a few times per year | a few times per month | a few times per week | a few times per day |

ITEM A. YOU USE INDIVIDUAL STUDY FACILITIES FOR --

(1) meeting individual needs -- in terms of aptitudes, creativity, intelligence, remedial needs, limitations — A B C D E — 2

(2) allowing pupils to learn self-appraisal, self-discipline, initiative for studying — A B C D E — 3

(3) allowing pupils to read for leisure, enrichment, etc. — A B C D E — 4

(4) pupils to think, reflect and plan with regard to their regular work and individual projects — A B C D E — 5

(5) pupils to view and listen to audio-visual materials, individually — A B C D E — 6

CONTIN.

--Continued on NEXT page--

INDIVIDUAL STUDY FACILITIES (continued)

DATA PROC ONLY

R CC

| A NEVER | B a few times per year | C a few times per month | D a few times per week | E a few times per day |
|---|---|---|---|---|

YOU USE INDIVIDUAL STUDY FACILITIES FOR --

(6) pupils using programmed learning materials and learning laboratories — A B C D E — 7

(7) pupils writing assignments, project reports, creative pieces of work — A B C D E — 8

(8) pupils who are making things in the practical arts or in the fine arts — A B C D E — 9

(9) pupils who are performing experiments in science, music, etc. — A B C D E — 10

(10) some OTHER purpose not mentioned above: please specify _____ _____ — A B C D E — 11

ITEM B.

*Estimate* the number of hours which a typical pupil of yours spends -- on the average -- in INDIVIDUAL STUDY FACILITIES.

[ ] Number of hours per week — 12,13

[3] 75
[ ] 76
[ ] 77
[ ] 78
[ ] 79
[ ] 80

--Respond to the items on EVERY page--

QUESTIONNAIRE: PART ONE

DATA PROC ONLY

R CC

## INSTRUCTIONAL MATERIALS CENTER

In order to avoid overlap in the study of innovatively designed school facilities, certain elements of the Instructional Materials Center (IMC) will be considered separately -- large and small group instructional facilities, individual study facilities, and the teachers' work room -- even though any of these is often incorporated into the IMC.

For the purpose of this study, you are requested to think of the IMC in terms *only* of the uses listed in the items below.

After each statement in ITEM A, below, circle ONE of the letters in the rectangle:

| A | B | C | D | E |
|---|---|---|---|---|
| NEVER | a few times per year | a few times per month | a few times per week | a few times per day |

ITEM A. YOU USE THE INSTRUCTIONAL MATERIALS CENTER AS A SOURCE OF --

(1) print materials (reference books, fiction, non-fiction, pamphlets, periodicals, programmed learning texts, maps, charts, professional journals, etc.) FOR YOUR PERSONAL USE

A B C D E 2

(2) print materials (as above) FOR PUPIL USE

A B C D E 3

(3) *non*-print materials (slides, filmstrips, records, tapes, transparencies, models, globes, realia, video tapes -- and necessary machines such as projectors) FOR YOUR OWN USE

A B C D E 4

(4) *non*-print materials (as above) FOR PUPIL USE

A B C D E 5

CONTIN.

--Continued on NEXT page--

DATA PROC ONLY

R CC

| A<br>N<br>E<br>V<br>E<br>R | B<br>a<br>few<br>times<br>per<br>year | C<br>a<br>few<br>times<br>per<br>month | D<br>a<br>few<br>times<br>per<br>week | E<br>a<br>few<br>times<br>per<br>day |
|---|---|---|---|---|

YOU USE THE INSTRUCTIONAL MATERIALS CENTER AS A SOURCE OF --

(5) skilled clerical staff who prepare highly specialized teaching materials which cannot be purchased

A B C D E 6

(6) complete lists of information and materials available in the IMC for prescribed units of study or assigned research projects

A B C D E 7

ITEM B.

How efficient is the cataloguing and storage system used in your IMC for making information, materials, and A-V equipment readily accessible to YOU? (Check ONE)

( ) very efficient 3
( ) moderately efficient 2
( ) inefficient 1 8

ITEM C.

How efficient is the cataloguing and storage system used in your IMC for making information, materials, and A-V equipment readily accessible to PUPILS?

( ) very efficient 3
( ) moderately efficient 2
( ) inefficient 1 9

ITEM D.

*Estimate* the extent to which a typical pupil of yours -- on the average -- avails himself of the materials and services of the IMC.
(Check ONE)

( ) to a *great* extent 3
( ) to a *moderate* extent 2
( ) to a very *limited* extent 1 10

[4] 75
[ ] 76
[ ] 77
[ ] 78
[ ] 79
[ ] 80

--Respond to the items on EVERY page--

QUESTIONNAIRE: PART ONE

DATA PROC ONLY

R CC

## TEACHERS' WORK ROOM

Although this facility may be adjacent to the teachers' lounge, its "work" function should be separated from the lounge. The Work Room should be close to the Instructional Materials Center and it should have access to duplicating and other necessary machines, and to materials required for preparing teaching aids.

ITEM A.

By circling ONE of the letters in the rectangle, indicate THE EXTENT TO WHICH YOU FIND YOURSELF able TO MAKE EACH OF THE FOLLOWING USES OF THE WORK ROOM IN YOUR SCHOOL:

| A | B | C | D | E |
|---|---|---|---|---|
| NEVER | a few times per year | a few times per month | a few times per week | a few times per day |

(1) preparing instructional materials — A B C D E — 2

(2) private study, research, planning — A B C D E — 3

(3) cooperative study, research, planning and evaluation with other teachers -- particularly in a team-teaching situation — A B C D E — 4

(4) private relaxation and reflection — A B C D E — 5

(5) OTHER (please specify) _____ — A B C D E — 6

(6) OTHER (please specify) _____ — A B C D E — 7

CONTIN.

--Continued on NEXT page--

TEACHERS' WORK ROOM (continued)

ITEM B.

In terms of facilities, privacy, and accessibility to materials, books, machines and to instructional areas -- how *useful* do you judge the Teachers' Work Room in your school to be?

( ) very useful
( ) moderately useful
( ) not very useful

DATA PROC ONLY

| R | CC |
|---|---|
| 3 | |
| 2 | |
| 1 | 8 |
| [5] | 75 |
| [ ] | 76 |
| [ ] | 77 |
| [ ] | 78 |
| [ ] | 79 |
| [ ] | 80 |

--Respond to the items on EVERY page--

QUESTIONNAIRE: PART ONE

DATA PROC ONLY

R CC

## ANCILLARY AREAS

These are areas in the school which are not designated for any specific purposes. They are often referred to as "general purpose rooms".

ITEM A.

By circling ONE of the letters in the rectangle to the right, INDICATE THE EXTENT TO WHICH YOU ARE DIRECTLY INVOLVED IN THE LISTED USES OF ANCILLARY AREAS. Of course, many of the listed uses will not apply to you; in such cases, circle "A" (never).

| A NEVER | B a few times per year | C a few times per month | D a few times per week | E a few times per day |
|---|---|---|---|---|

| | | | |
|---|---|---|---|
| (1) as alternate or supplementary facilities for large group instruction | A B C D E | | 2 |
| (2) as additional small group instructional area | A B C D E | | 3 |
| (3) as a theatre, small auditorium, or assembly room | A B C D E | | 4 |
| (4) as a choral, drama, or art room | A B C D E | | 5 |
| (5) as an exhibition or display area | A B C D E | | 6 |
| (6) as a lunch room | A B C D E | | 7 |
| (7) as a playroom in inclement weather | A B C D E | | 8 |

CONTIN.

--Continued on NEXT page--

ANCILLARY AREAS (continued)

DATA PROC ONLY

R CC

| | A NEVER | B a few times per year | C a few times per month | D a few times per week | E a few times per day | |
|---|---|---|---|---|---|---|
| (8) as a waiting room for school buses | A | B | C | D | E | 9 |
| (9) as a meeting room for Home and School, for teachers, or other adult groups | A | B | C | D | E | 10 |
| (10) as a place for pupils' parties or social functions during or after school hours | A | B | C | D | E | 11 |
| (11) OTHER (please specify) _____ | A | B | C | D | E | 12 |
| (12) OTHER (please specify) _____ | A | B | C | D | E | 13 |

ITEM B.

*Estimate* the number of hours which a typical pupil of yours spends -- on the average -- in the above activities in the ANCILLARY AREAS of your school.

[ ] Number of hours per week 14,15

[6] 75
[ ] 76
[ ] 77
[ ] 78
[ ] 79
[ ] 80

--Respond to the items on EVERY page--

QUESTIONNAIRE: PART ONE

DATA PROC ONLY

R CC

## PUPIL GUIDANCE AND COUNSELLING CENTER

The Pupil Guidance and Counselling Center (GCC) is a suite of attractive, comfortable rooms near the administrative offices, the Instructional Materials Center, and the main entrance of the school; however, it is out of the main flow of traffic and away from areas of high noise levels.

There are rooms for individual counselling, for group counselling, for using play media in testing; there is a waiting and reception area, and there is storage for records and materials.

After the first two items, below, circle ONE of the letters in the rectangle:

| A | B | C | D | E |
|---|---|---|---|---|
| NEVER | a few times per year | a few times per month | a few times per week | a few times per day |

ITEM A.

Professionals in the Guidance and Counselling Center can assist a child become aware of his potential and become interested in working toward it. YOU REFER PUPILS TO THE GCC FOR THIS TYPE OF ASSISTANCE.

A B C D E 2

ITEM B.

You consult records in the Counselling Center which give information on individual pupils' special needs, abilities, levels of achievement, personality problems, etc.

A B C D E 3

ITEM C.

The GCC provides services in diagnostic aptitude, intelligence, achievement testing. (Check ONE)

( ) Yes ( ) No 1 or 2 4

CONTIN.

--Continued on NEXT page--

PUPIL GUIDANCE AND COUNSELLING CENTER (continued)

DATA PROC ONLY

R CC

ITEM D.

The GCC assists the staff as a whole to provide an instructional program which contributes to pupils' self-directed learning.

( ) Yes ( ) No

1 or 2 5

ITEM E.

You would say that this attempt by the GCC has proved successful.

( ) Yes ( ) No

1 or 2 6

ITEM F.

The GCC provides group counselling so that your pupils are aware of normal developmental problems which they likely will encounter.

( ) Yes ( ) No

1 or 2 7

ITEM G.

The GCC provides a program for teachers, pupils and the public which promotes understanding of the aims and policies of the school.

( ) Yes ( ) No

1 or 2 8

ITEM H.

The GCC conducts in-service education to assist teachers increase their understanding of developmental needs and growth patterns of normal, of handicapped, and of exceptional pupils in elementary school.

( ) Yes ( ) No

1 or 2 9

ITEM I.

Indicate at the right how useful you think the Pupil Guidance and Counselling Center is to you, personally -- as a teacher.

( ) highly useful 3

( ) moderately useful 2

( ) of limited use 1 10

[7] 75
[ ] 76
[ ] 77
[ ] 78
[ ] 79
[ ] 80

--Respond to the items on EVERY page--

QUESTIONNAIRE: PART TWO

(Administrators' Form)

DATA PROC ONLY

R CC

## Information About Yourself

Instructions. Please provide all of the personal data which is requested. All responses will be kept in strict confidence.

---

1. Indicate your age by checking the appropriate space. 2

( ) 20 - 29 [1] ( ) 40 - 49 [3] ( ) 60 or over [5]
( ) 30 - 39 [2] ( ) 50 - 59 [4]

2. Indicate your sex. ( ) Male ( ) Female 1 or 2 3

3. How many years of teaching experience -- *excluding* administrative experience -- do you have? 4,5

_____ years.

4. How many years of administrative experience do you have *including* the current year? 6,7

_____ years.

5. How many years of teacher education do you have (as recognized for salary purposes in this city)? 8

( ) one ( ) three ( ) five
( ) two ( ) four ( ) six

6. For which level of instruction did your formal education prepare you? 9

( ) elementary [1] ( ) secondary [3]
( ) junior high [2] ( ) unable to specify [4]

7. Which of the following administrative positions do you now occupy? 10

( ) principal [1] ( ) vice-principal ( ) counsellor [3]

8. If you have teaching duties as well as administrative duties, what SUBJECT(S) in which GRADE(S) do you teach?

_____

_____

_____

9. What position did you hold prior to being appointed to your present position? 11

( ) vice-principal of this school 1
( ) teacher in this school 2
( ) administrator in this system, but in a different school 3
( ) teacher in this system, but in a different school 4
( ) administrator in a school system other than this one 5
( ) teacher in a school system other than this one 6
( ) some position not given above; PLEASE SPECIFY _____ 7

_____

--Continued on NEXT page--

CONTIN.

PART TWO (concluded)

DATA PROC ONLY
R CC

10. You have been in your present administrative post since --

( ) the new school was built
( ) the addition was completed
( ) *before* the addition was completed
( ) a point in time *after* the new building or addition was completed

1
2
3
4 12

IN THE REMAINING QUESTIONS IN PART TWO, THE TERM "Innovatively Designed School" REFERS TO A SCHOOL WHICH CONTAINS *ONE OR MORE* OF THE FOLLOWING DESIGNS. Note that these are the same ones discussed in PART ONE.:

° Large Group Instructional Area
° Small Group Instructional Area
° Facilities for Individual Study
° Instructional Materials Center
° Pupil Guidance and Counselling Center
° Teachers' Work Room
° Ancillary Area

11. How many years were you a full-time teacher in an "innovatively designed school"?

( ) zero ( ) two ( ) four ( ) six
( ) one ( ) three ( ) five ( ) seven or more

13

12. How many years have you been an administrator in an "innovatively designed school"?

( ) one ( ) three ( ) five ( ) seven
( ) two ( ) four ( ) six ( ) eight or more

14

13. Did your FORMAL teacher education include at least one course concerned with teaching in an "innovatively designed school"?

( ) Yes ( ) No

1 or 2 15

14. Have you had INFORMAL preparation for teaching in "innovatively designed schools"? (For example, in-service training, workshops, lectures, conventions, non-credit courses from the university, etc.)

( ) Yes ( ) No

1 or 2 16

15. Innovatively designed schools -- such as the one in which you are an administrator -- are

( ) MUCH LESS USEFUL
( ) SOMEWHAT LESS USEFUL
( ) NEITHER MORE NOR LESS USEFUL
( ) SOMEWHAT MORE USEFUL
( ) MUCH MORE USEFUL

than conventionally designed schools for achieving what *you* consider to be the objectives of elementary education.

1
2
3
4
5 17

--End of Questionnaire--

THANK YOU

[9] 75
[ ] 76
[ ] 77
[ ] 78
[ ] 79
[2] 80

QUESTIONNAIRE: PART TWO

(Teachers' Form)

DATA PROC ONLY

R CC

## Information About Yourself

Instructions. Please provide all of the personal data which is requested. All responses will be kept in strict confidence.

---

1. Indicate your age by checking the appropriate space.

( ) under 20 [1] ( ) 30 - 39 [3] ( ) 50 - 50 [5] 2

( ) 20 - 29 [2] ( ) 40 - 49 [4] ( ) 60 or over [6]

2. Indicate your sex. ( ) Male ( ) Female 1 or 2 3

3. How many years of teaching experience do you have -- *including* the current year? _____ years. 4

4. To the nearest whole year, how many years of teacher training are you accredited with for salary purposes?

( ) 1 ( ) 3 ( ) 5 5

( ) 2 ( ) 4 ( ) 6

5. Check the statement which best describes WHEN you came on staff in the school in which you are now teaching.

( ) *subsequent to* the school year during which your new building or latest addition was completed and opened 1

( ) *during* the school year during which the new building or addition was opened 2

( ) *before* the addition or whole new building was actually opened 3 6

6. Check the statement which best describes HOW you came to be on this staff.

( ) I requested to be assigned or transferred to this school. 1

( ) The principal requested that I be assigned here. 2

( ) Someone placed me on this staff for a reason unknown to me. 3

( ) I was placed on staff in some way *other than* any of the above; PLEASE SPECIFY briefly: _____ 4 7

_____

7. For which level of instruction did your FORMAL teacher education prepare you?

( ) elementary [1] ( ) secondary [3]

( ) junior high [2] ( ) unable to specify [4] 8

CONTIN.

--Continued on NEXT page--

PART TWO (concluded)

DATA PROC ONLY

R CC

8. In a few words describe the subject area and grade level of the *major* part of your teaching duties, that is that part of your teaching which requires more than 50% of your time. (Six of the many possible combinations are given in the box; model your response after one of the samples:)

| | |
|---|---|
| "One grade 1 class." | "Division I. Phys. Ed." |
| "Math teacher: grades 4,5,6." | "Grade 5,6 science." |
| "One class of grade 1 & 2 combined." | "Art: 1 - 6." |

YOUR ANSWER _____

IN THE REMAINING QUESTIONS IN PART TWO, THE TERM "Innovatively Designed School" REFERS TO A SCHOOL WHICH CONTAINS *ONE OR MORE* OF THE FOLLOWING DESIGNS. Note that these are the same ones discussed in PART ONE.:

- ° Large Group Instructional Area
- ° Small Group Instructional Area
- ° Facilities for Individual Study
- ° Instructional Materials Center
- ° Pupil Guidance and Counselling Center
- ° Teachers' Work Room
- ° Ancillary Area

9. How many years have you taught in an "innovatively designed school"?

( ) one ( ) three ( ) five ( ) seven
( ) two ( ) four ( ) six ( ) eight or more

9

10. Did your FORMAL teacher training include at least one course concerned with teaching in an "innovatively designed school"?

( ) Yes ( ) No

1 or 2
10

11. Have you had INFORMAL preparation for teaching in "innovatively designed schools"? (For example, in-service training, workshops, lectures, conventions, non-credit courses from the university, etc.)

( ) Yes ( ) No

1 or 2
11

12. Innovatively designed schools -- such as the one you are teaching in -- are

( ) MUCH LESS USEFUL
( ) SOMEWHAT LESS USEFUL
( ) NEITHER MORE NOR LESS USEFUL
( ) SOMEWHAT MORE USEFUL
( ) MUCH MORE USEFUL

1
2
3
4
5
12

than conventionally designed schools for achieving what *you* consider to be the objectives of elementary education.

[8] 75
[ ] 76
[ ] 77
[ ] 78
[ ] 79
[1] 80

--End of Questionnaire--

THANK YOU

# A P P E N D I X  C

## LETTERS

1. Covering letter sent to members of the Panel of Expert Judges with the Validation Questionnaire.

2. Covering letter to principals of Edmonton Public Schools in the sample sent from Dr. E. A. Mansfield, Director - Educational Research.

3. Covering letter to principals of Edmonton Separate Schools in the sample from Mr. J. L. Picard, Administrative Assistant, Department of Instruction.

4. Letter of thanks to cooperating principals of the sample schools.

FACULTY OF EDUCATION
DEPARTMENT OF EDUCATIONAL ADMINISTRATION

THE UNIVERSITY OF ALBERTA
EDMONTON 7, CANADA



May I request you cooperation as one member of a panel of experts which I have selected with respect to a research project which I am conducting: I am soliciting expert opinion with the hope of validating a body of information on the basis of which a data collection instrument will be devised.

YOUR COOPERATION WOULD REQUIRE THE FOLLOWING:

(1) reading the remainder of this letter,
(2) completing the enclosed questionnaire--ten or fifteen minutes,
(3) returning the questionnaire as soon as possible in the stamped envelope which is enclosed, also.

IMPORTANCE OF THE STUDY. First, the importance of evaluating educational aims, expenditures and returns is currently being given its proper recognition. My study will attempt to redefine a particular set of educational objectives and use these as a basis for evaluating innovations in school design.

Second, the study will be done "in the field" and the findings should be directly applicable in improving practice at the local level.

Third, school design has never been thoroughly evaluated in terms of operationally stated educational aims. This study will attempt to identify a comprehensive list of uses for the most significant elements of design innovation, and then evaluate actual patterns of utilization of facilities in a population of innovatively designed schools.

BASIS OF THE STUDY. I have abstracted from the literature a list of what appear to be the most significant elements of innovative school design, and the intended uses of each design--that is, those uses envisioned and advocated by the creators and proponents of the innovative design elements. The actual uses of these facilities in a sample of elementary schools will be compared to the intended uses which I am now attempting to ascertain.

THE PANEL OF EXPERTS. Each panel member is requested to study (independently) the abstracted list of design elements and the uses of each, and using his expert opinion, respond to the questionnaire items.

The panel comprises the following members: 1 elementary school principal; 1 supervisor of elementary education in a large urban center; 1 director of facilities planning in a large urban school authority; 1 professor of education; 1 top-level professional member of the Educational Facilities Laboratory (EFL); 1 similar member from a Canadian counterpart organization, The Metropolitan Toronto School Board Study of Educational Facilities (SEF); and 1 Government of Alberta facilities planner.

Thank you for your cooperation.

Sincerely,

E D M O N T O N  P U B L I C  S C H O O L  B O A R D

Research, Development & Information

Date: April 13, 1970

MEMORANDUM:

To: Principals of Schools with Elements of Innovative Design

From: Dr. E.A. Mansfield, Director - Educational Research

Subject: RESEARCH PROJECT - Mr. Neil Clarke

1. As you are aware the Edmonton Public School Board is very much concerned that our modern schools and additions be evaluated with respect to their innovative design elements. For example, many questions have been asked concerning the usefulness, or otherwise, of "open areas".

2. We know that your school staff, in all likelihood, completed a recent survey questionnaire on behalf of a school system committee chaired by Mr. C. Carlan, Assistant Superintendent - Staff Development. The results of this questionnaire, along with other items of information, will be presented to the Board on May 5, 1970.

3. However, there is still a great deal of information we do not have concerning the way in which various school areas are used to educational advantage. This is the kind of information which should be shared amongst principals and which is essential to the sound design of our future schools.

4. Therefore, your further co-operation is solicited on behalf of an important study being undertaken by Mr. Neil Clarke, graduate student, Department of Educational Administration, University of Alberta. This project has been examined and approved by Mr. D. Cooney, Director - Educational Facilities, by myself, and

. . . 2

by several school principals. The Department of R.D. & I. is co-operating with Mr. Clarke as it is our conviction that the "feedback" from this project will be of considerable importance to our school system - particularly to school principals and to those involved in school design.

5. Please find attached copies of previous correspondence. Copies of the questionnaires are not attached as these will differ in number from school to school. That is, Mr. Clarke will contact you in the very near future to determine the kind of innovative space incorporated in the design of your school (for example: large group instruction facilities, small group instruction facilities, I.M.C., facilities for individual study, etc.). On the basis of this contact an appropriate kind and number of questionnaires will be delivered to you. The instructions for administering the instrument to your staff are very brief and very simple. A sheet of these instructions will accompany your bundle of questionnaires.

6. When you are contacted by Mr. Clarke, as per item 5 above, he can give you more detail about the study at that time and you can indicate the extent to which your school is willing to co-operate. I can appreciate the fact that your schools have been "hit hard" already with respect to various questionnaires. All I can do at this time is express my thanks for your co-operation thus far and ask you to bear with me just a little longer.

EAM/ak

Attach.

Edmonton Separate School District

EDUCATIONAL AND ADMINISTRATIVE CENTRE
9807 - 106 STREET, EDMONTON 14, ALBERTA — TELEPHONE (403) 429-7631



Mr. Neil W. J. Clarke, a graduate student of the University of Alberta, has been authorized to investigate the utilization of innovations in building designs in our schools, as part of a Research project which he is presently carrying out.

Results of this Research could be of great interest and value to our system, in helping us to formulate policies as to the need for such innovative ideas in our schools, and we, therefore, hope that you and your staff will see fit to cooperate with him in this undertaking. No questionnaire will be distributed among pupils and parents.

FACULTY OF EDUCATION
DEPARTMENT OF EDUCATIONAL
ADMINISTRATION



THE UNIVERSITY OF ALBERTA
EDMONTON 7, CANADA

June 14, 1970

I would like to thank you for your help -- and cordialness -- in collecting data for the study of innovative elements of school design. I am also indebted to the members of your staff, who completed questionnaires. In many instances, teachers were particularly helpful and wrote additional information about the utilization of innovatively designed schools on the backs and bottoms of pages.

It was very gratifying to get back nearly three-quarters of the number of questionnaires which I sent out -- especially in view of the heavy load of questionnaires, etc. which schools have been burdened with this year.

If it is convenient, please relay my thanks to the others on staff.

And again, my thanks to you personally

Sincerely,

Neil W. J. Clarke

P.S. Findings of the study will be available as soon as they are summarized and prepared for distribution. I will ask central office to notify you as to how copies can be obtained, or to simply send out copies.

B29951